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HINTS FOR THE SEASON.

On account of the shortness of our sowing season, everything that can be done to facilitate spring work should be attended to immediately. If not already done, plows, harrows, whiffletrees, clevises, harness, &c., should be put in order. Seed should be prepared, plaster obtained, and everything that can be done should be postponed no longer.

SOWING CLOVER.—Where clover is sown on winter wheat, it is not necessary to wait till the ground is free from snow. Indeed, many farmers prefer to sow clover seed on the top of a slight coat of snow. For our own part, we think it better, under many circumstances, to wait till the ground is in good working condition, and then sow the seed and *harrow it in.* For this purpose light harrows should be used, so light that a span of horses could easily draw three of them, four feet square each. Almost every English farmer has such a set of harrows, for covering small seeds. An active span of horses will harrow from fifteen to twenty acres per day. There need not be the slightest apprehension that such harrows, or indeed heavier ones, will injure the wheat; in fact the experience of German and English farmers, and of those who have adopted the practice in this country, proves that it is very beneficial to the wheat plant.

Spring wheat and oats frequently grow so thick near the ground as to prove injurious to young clover plants. Barley is the best spring grain to sow clover with. Care should be used not to cover the seed too deep. Experiments show that clover seed does best when but slightly covered. Thirteen beds were sown with twenty seeds each, the seed in each successive one being buried a quarter of an inch deeper than the preceding, and varying from the surface of the ground to three inches deep. The following were the results obtained: Of those sown on the surface, 17 grew; of those covered one-fourth of an inch deep, 16; ½ inch, 14; ¾ of an inch, 11; 1 inch, 11; 1¼ inch, 8; 1½ inch, 4: 1¾ inch, 4; 2 inches, 0. From the surface to one-half an inch deep, the seeds mostly came up; but when buried deeper than this many of the seeds were smothered, and at two inches deep and deeper, none came up.

In rotation with wheat, clover alone should be sown —10 to 12 pounds per acre being the usual quantity. But where it is intended to seed the land down for several years, timothy, red top, and other grasses should be sown in addition to the red clover—say for soils of medium quality, 4 quarts or 8 lbs. of red clover, 1 peck of timothy, and ½ bushel of red top.

Some farmers are in the habit of soaking their clover seed in water for a few hours, and then mixing it with plaster till it is dry enough to sow. This, it is said, insures a catch.

SOWING PLASTER.—In Western New York, the use of plaster in conjunction with clover is one of the best means of keeping up or increasing the fertility of wheat farms. It is the general impression—and general impressions are usually correct—that plaster has little influence on wheat, barley, oats, &c., but on clover, peas, and corn it is usually very beneficial. Plaster may be either sown with the clover seed, or in the fall or spring following. The latter is the general practice, but the former has its advocates. There are those who think that when plaster is sown on wheat with the clover, it promotes the growth of straw to an injurious extent, but however true this may be under some circumstances, we are satisfied that it is not always or even generally so. Some of the best farmers in this county sow plaster on wheat for the benefit of the clover, and are convinced of the advantages of the practice.

An easy way of sowing plaster on clover, and on wheat or any other grain, is to take a one-horse wagon, and place a half barrel or wash tub at the hind end; into this put the plaster. The sower seats himself on a board laid across the box, with his back to the horse; a boy drives the horse at a moderate walk, and the plaster is distributed in the track of the wagon, in a breadth of from 16 to 20 feet. A quantity of plaster may be placed in the fore end of the wagon with which to replenish the half barrel when it is exhausted. In this way a man and a boy will sow as much as six men with pails, and with far less labor.

PLOWING.—It is of course desirable to plow as much land in a day as possible, but it is a mistaken economy to flop over furrows 12 to 18 inches wide, especially for spring crops. Better plow an acre and a half 8 or 10 inches wide, than three acres in this common but unphilosophical manner. The object of plowing is to pulverize the soil, and let in the air and light. On this account, the operation should be deferred till the land is dry enough to turn up mellow for no amount of harrowing and rolling will make a good seed bed on soil plowed when wet. For wheat it is possible to make land too loose and light, but for spring crops little danger need be apprehended on this account. We are earnest advocates of deep plowing, but, if we may use a vulgar phrase, *there is danger of running it into the ground.* It is next to impossible, after land has been flopped over 10 or 12 inches deep, to get any harrows, cultivators, or imple-

ments of any kind, to stir, loosen and pulverize it to this depth. If land is plowed 10 or 12 inches deep every six or eight years, and 6 or 7 inches deep in the interim, and the harrow and the cultivator be freely used to loosen and clean the soil, as good crops will be obtained as when that system of deep plowing is adopted so indiscriminately recommended by some radical agricultural reformers.

Subsoil plowing, or breaking up the subsoil without bringing it to the surface, is almost universally beneficial. Certainly we have never known it injurious, but we cannot say as much for deep plowing. We have had several instances come under our own observation, where the fertility of a soil has been greatly reduced for several years, by plowing it from 12 to 15 inches deep.

Barley.—This is the first spring crop which demands the farmer's attention. The earlier it can be sown, after the land can be got into good condition, the better. We have spoken of its cultivation on another page.

Oats.—This is the next crop to be sown. On heavy clay lands, and on low swampy soils, oats succeed better than barley—the former soils, as a general rule, yielding the heaviest grain—the latter the greatest quantity of straw. Two bushels of seed is usually considered sufficient on the latter class of soils, and two and a half on the former. In England, four bushels are frequently sown, and formerly five was not uncommon. There is much said just now about the *White Poland* oat; it is a good variety, but no better, in our opinion, than many others. Indeed, we know those who have sown it for several years, who have abandoned its cultivation. A larger number of bushels per acre, and as great an aggregate weight can be obtained with the common oat as with the *White Poland*. Its greater weight per bushel makes it attractive.

Peas.—The bug is a great drawback to the profitable cultivation of peas. A year or two since we persuaded a gentleman in this vicinity to grow peas for the purpose of fattening hogs early in the fall. He sowed ten acres, five acres of the Canada gray, and five acres of white peas. An excellent crop was obtained from both kinds. Instead, however, of feeding them to hogs early in the fall, before the bug had time to injure them, he concluded to keep them for seed. They were stacked in the barn, and when threshed in December, he discovered, too late, that the bugs had nearly destroyed the whole. Such has doubtless been the experience of many of our readers, and thousands have abandoned pea culture altogether. But we are still of opinion that on all wheat farms, peas may be grown with profit as food for hogs. They can be fed out the latter end of August, and in September and October, before the bug has injured them to any great extent. Peas impoverish the soil but little. They contain twice the amount of nitrogen of any other of our grains except beans, and thus, while experiments demonstrate that they impoverish the soil but little, their consumption by animals on the farm furnishes a large amount of manure, which is exceedingly rich in ammonia—the substance most needed by wheat and other cereals.

Peas do well on an inverted sod. They flourish with good cultivation, on all ordinary land, though a strong wheat soil, reduced to a fine tilth, suits them best. In England, peas are almost invariably sown in drills about 12 inches apart, and hoed. Although labor is much higher in this country, we believe the increase of peas will more than pay for the expense of hoeing, while the land will be left clean and in fine condition for sowing to wheat the same fall. Two bushels per acre are usually sown broadcast; if drilled, a bushel and a half will be sufficient, though it is not well to be sparing of seed.

In order to avoid the bug, some writers recommend to sow peas as late as the middle of June. This remedy, although generally effectual, is in most cases worse than the disease. We should sow as soon after the barley and oats were put in as possible. In this way, if the land is in good condition, a heavy crop is obtained, which smothers the weeds, and is ripe in season to allow ample time for preparing the land for wheat. One to two bushels of plaster per acre will generally be found beneficial to peas.

Onions.—Farmers pay too little attention to the cultivation of the onion as a field crop. Aside from the peculiar flavor for which it is so much esteemed, the onion contains in a dry state, about 30 per cent. of nitrogenous compound, or "flesh-forming principles." The climate of this country is well adapted for the cultivation of the onion, and we have little doubt that ordinarily as much nutritive matter can be obtained from an acre cultivated with onions, as with any other root crop, except, perhaps, mangel wurzel and carrots. In 1853, Mr. J. Longfellow, of Byfield, Mass., raised on half an acre, 386¾ baskets of ripe onions, weighing 57 lbs. per basket. This is over 22 tons per acre. Amos Cole, of Perinton, in this county, has raised "on a single half acre, 368 bushels." Mr. E. Brown, of Marblehead, Mass, raised 407 bushels on half an acre, or 23 tons per acre. A correspondent of the *Cultivator*, residing at Chester, Orange Co., N. Y., raised in 1850, on nine square rods, 64 bushels, or 1,138 bushels, or 32 tons per acre. This is sufficient to show that onions, regarded simply as a nutritious food, are well worthy the attention of farmers. It is true that in preparing the ground, sowing and weeding, the onion requires more labor than other crops. It is the labor of weeding that farmers most dread. If the land is thoroughly prepared, and manure free from seed is used, and the onions are sown in rows 15 inches apart, and the hoe is run through them as soon as the plants can be distinguished from the weeds, the trouble and expense of weeding is far less than is generally imagined.

Six to eight pounds of seed per acre is usually sown in drills from 15 to 18 inches apart. Some will think this too much seed, but it is better to have too many than too few plants, as it is easy to thin them out, which should always be done, leaving the onions about six inches apart in the rows. Care must be used not to bury the seed too deep. It is desirable to sow as soon as the soil is in good working order. Late sowing is one of the principal causes of scullions. If sown by hand, it is well to soak the seed in tepid water twenty-four hours, and dry it with plaster before using.

Plaster Damaged by Exposure.—"The qualities in plaster to which its action as a fertilizer are attributable are undoubtedly dissipated, in some degree, by exposure to the weather."—*Ag. Exchange.*

This is "undoubtedly" a mistake. There are no "qualities" or substances that can possibly escape by exposure to the weather.

THE RURAL ECONOMY OF FRANCE AND BRITAIN.

M. DE LAVERGNE, an eminent Frenchman who has devoted much time to the study of Agriculture, and the practical management of his landed property, and who for a time filled the Chair of Rural Economy in the Agronomical Institute at Versailles, has spent much time in the rural districts of England, Scotland, and Ireland, and has given us a most interesting comparison of the rural economy of France and Great Britain.*

Corn, meat, cheese, and wool are the four articles on which the productive powers of British agriculture are concentrated, and the results obtained by modern farming are such, as not only to prove highly beneficial to the community, but to eclipse in a very extraordinary proportion, the agricultural, produce, and returns of the most favored countries in Europe. The principal object of M. DE LAVERGNE is to demonstrate the truth of this assertion, and to explain the causes which have produced this result, so highly creditable to the British farmer.

The extent of land under cultivation in France bears to the land under cultivation in the United Kingdom, the proportion of three to two. England proper, contains about thirty-two million acres, a little more than a third of the total extent of the British Isles, and one-fourth of that of France. France does not possess an equal extent of well cultivated land. Some detached districts, especially in French Flanders, may be equal or even surpass it in fertility, but "thirty-two million acres equal in cultivation to the thirty-two million acres in England, France does not possess." Yet neither the soil nor the climate of England can claim any pre-eminence over France; on the contrary some of the most fertile counties, such as Lincoln, were formerly mere fens and marshes, and "the system of agriculture, which has made the fortune of England, sprang from the soils and bleak atmosphere of Norfolk."

M. DE LAVERGNE says:

"It is the same with the climate. Its mists and rains are proverbial; its extreme humidity is little favorable to wheat, which is the prime object of all cultivation; few plants ripen naturally under its dull sky; it is propitious only to grasses and roots. Rainy summers, late autumns, and mild winters, encourage, under the influence of an almost equal temperature, an evergreen vegetation. Here its action stops. Nothing need be asked of it which demands the intervention of that great producing power the sun.

"How superior is the soil and climate of France! In comparing with England the thirty-six departments grouped around Paris, we find more than fifty-five millions of acres which surpass in quality, as they do in extent, the thirty-two millions of English acres. Scarcely any mountains; few natural marshes; extensive plains, sound almost throughout; a soil sufficiently deep, and of a nature most favorable to production; rich deposits in the broad rollings of the Loire and Seine with their tributaries; a climate not so moist, but warmer—less favorable, perhaps, to meadow vegetation, but more suitable for ripening wheat and other cereals. All the productions of England are obtained with less trouble, and in addition, other valuable products, such as sugar, textile and oleaginous plants, tobacco, wine, fruits, &c."

M. DE LAVERGNE proves that, in spite of these natural advantages, England is better cultivated and more productive, over an equal extent, than the best districts of France.

France cultivates a number of crops almost unknown among the English, such as the vine—which covers not less than five millions of acres, and produces at least twenty dollars to the acre—rape, tobacco, sugar beet, madder, the olive, and the mulberry, while the agriculture of England consists in a large extent of natural or artificial pasture; two root crops, the turnip and the potato; two spring cereals, barley and oats; and a winter one, wheat—linked together in a series of crops destined exclusively for the production of meat, beer and bread.

"The diversity of our climate, and what is more, our national genius, which naturally aims at quality in variety, as that of England seeks quantity in uniformity, give us promise of immense progress in those crops which to a certain extent, are dependent on art. Still it is impossible to be blind to the fact that as matters stand, the English, with their two or three crops upon a large scale, produce by the universality and simplicity of the means they employ, much superior results in the aggregate—results which we also obtain in particular parts of France, where the same system is followed. Those of our departments most resembling England in the nature and distribution of their crops are those also which attain, upon the whole, the best returns."

This is high, but well deserved praise of the four course system of British agriculture, the principle of which is the alternation of green crops with the cereals—a principle which is as applicable to the agriculture of this country as to that of England or France, for though we cannot grow turnips to the extent common in England, yet we may grow some other crop having the same qualities.

In nothing is there a greater contrast between French and British agriculture, than in sheep husbandry. In France, the main object is wool, in England mutton. One half of the French sheep are Merinoes, or half-bred Merinoes. England long ago abandoned the propagation of the Spanish breeds. By careful breeding, several of the British breeds of sheep will average, at two years old, eighty to a hundred pounds nett, of mutton. France has thirty-five million sheep, which produce one hundred and thirty-two million pounds of wool, or about 3¾ lbs. per head, and 316 million pounds of mutton; whilst 35 million British sheep produce at least the same quantity of wool, and 792 million pounds of mutton. "England feeds two sheep per hectare, (2½ acres) whilst the average for France is only two-thirds of a head; and the produce of the English sheep being double that of the French, *it follows that the average return of an English sheep farm is six times greater than a French one.*"

France possesses ten million head of cattle, England and Wales five million, Scotland one million, and Ireland two million. In France, the number of cattle annually slaughtered is four millions; in the British isles two millions. The former, according to official statistics, afford 660 million lbs. of meat, or 165 lbs. each, while the latter afford 1,100 millions, or 550 lbs. per head.

"This disproportion is perfectly explained, independently of the difference in race, by the difference in age of the animals slaughtered. The French cattle are slaughtered either too soon or too late; the paramount

* The Rural Economy of England, Scotland and Ireland. By LEONCE DE LAVERGNE. Translated, with notes, by a Scotch Farmer. Edinburgh: 1855.

necessity of maintaing cattle intended for labor, obliges us to kill a great number of calves at that age when growth is most rapid. In our four millions of head, figure two and a half millions of calves, which on an average give not more than sixty-six pounds of meat. Those that survive are not slaughtered until an age when growth has long ceased—that is to say after the animal has for several years continued to consume food which has not served to increase its weight. The English, on the contrary, kill their animals neither so young, because it is when young that they lay on flesh most rapidly, nor so old because they have ceased to increase; they seize the precise period when the animal has reached its maximum growth."

M. DE LAVERGNE estimates that English cows give twice the milk obtained from French cows. This arises from the practice of working milch cows, which prevails to a greater or less extent in France, and our author declares that "the working of horned cattle, whether necessary or not, entails a loss instead of being profitable."

Nor only in the production of meat, but in the production of cereal grains, does M. DE LAVERGNE award the palm to British farmers. He says:

"With us, the average production is 13½ bushels of wheat and 11 of rye per acre, deducting seed. Adding to this the maize and buckwheat, and dividing the whole by the number of acres sown, the average result for each acre is rather more than seven bushels of wheat, about three bushels of rye, and a little more than one bushel of maize or buckwheat—making a total of about twelve bushels per acre. In England, the production is 28 bushels of wheat—say more than double in quantity, and in money value, three times as much. This superiority is certainly not to be attributed, as in the case of the natural and artificial meadows and roots—and, to a certain extent, also with oats and barley—to the soil and climate, but to superior cultivation, *which shows itself chiefly in limiting the wheat crop to the extent of land rendered fit for its production.*"

We have italicised the closing remark, in order to call particular attention to it, for we are persuaded that our own system of agriculture might be improved by reducing the quantity of land annually sown with the high-priced cereals. Scotland and Ireland are included in the above estimate, but taking England by itself, the results are much more striking.

"That small country, which is no larger than a fourth of France, alone produces 104 million bushels of wheat, 48 million of barley, and 90 million of oats. If France produced in the same ratio, her yield, deducting seed, would be 400 million bushels of wheat, and 560 million bushels of barley oats and other grain—equal to at least double her present production; and we ought to obtain more, considering the nature of our soil and climate, both much more favorable to cereals than the soil and climate of England. These facts verify this agricultural law—that to reap largely of cereals, it is better to *reduce than to extend the breadth of land sown*, and that by giving the greatest space to the forage crops, not only is a greater quantity of butcher meat, milk, and wool obtained, but a larger production of grain also. France will achieve similar results when she has covered her immense fallows with root and forage crops, and reduced the breadth of her cereals by several millions of hectares."

ALTHOUGH, in draining land thoroughly, your purse may be drained, yet the full crops that follow will soon fill it again.

THE COMPOSITION AND ACTION OF GUANO.—INFORMATION WANTED.

THE March number of the *Penn. Farm Journal* contains an article on guano, from the pen of Dr. A. A. HAYES, of Boston, from which we make a few extracts for the purpose of eliciting further information.

"The guano which we will first consider is that best known, derived from the *rainless regions*, the Chincha Islands off the coast of Peru, Ichaboe on the coast of Africa, and other localities."

Is Ichaboe a "*rainless* region?" and if it is, why is not Ichaboe guano as good as Peruvian? and why will not farmers give as much for it as for Peruvian? We have seen genuine Ichaboe guano sold in England for $22 per ton, when Peruvian was selling for $46 per ton. Ichaboe contains usually from 5 to 7 per cent. of ammonia, Peruvian 16 to 18 per cent.

"The bulk of the ammonia present in Peruvian guano is not the simple carbonate, or a sesqui-carbonate, but the bi-carbonate."

This may be true of samples of guano that have been wet and undergone fermentation; but so far as our experience extends, it certainly is not true of genuine "Peruvian" guano. Dr. URE, who has had much experience in analyzing guano, says in the last edition of his "Dictionary of the Arts and Sciences," Peruvian guano "*may* contain, *at the utmost*, four or five per cent. of the carbonate (of ammonia,) but such guanos must have been acted upon powerfully by humidity." This is not more than *one-seventh* of the amount of ammonia, actual and potential, that is contained in good Peruvian guano; and this quantity, it will be observed, is only found in inferior or damaged samples. In a sound sample of Peruvian guano from the Chincha Islands, Dr. URE found only one per cent. of sesqui-carbonate of ammonia, equal to 0.34 of ammonia, or about *one-fiftieth part* of the whole quantity of actual and potential ammonia in the guano. We will not dispute Dr. HAYES' statement that it is the bi-carbonate, and not the sesqui-carbonate or carbonate of ammonia, that is found in guano—it matters little which; but we are confident that the "bulk of the ammonia present in Peruvian guano," is in the form of neither of these volatile salts, but in the form of urate of ammonia, and other fixed salts, which by fermentation in the soil are converted into carbonate of ammonia.

"A certain *fermentative principle* present in it (guano) acts upon the organic constituents of soils. * * * Experiment has not only proved this, but has also shown that in that universal manure derived from the barn-yard, the same fermentative principle exists, *constituting its most valuable constitutent.*"

We would respectfully ask what this "fermentative principle" is; and where and when the "experiment" was made that has proved the existence of this principle, and that it is "the *most valuable* constituent" of barn-yard manure?

"The great activity and power of the chemical action which takes place in the mass of the material comprising the guano heaps, has had the effect to break down the granules of the phosphate of lime, as voided by the birds, into an impalpable powder, in which state it is ready to be assimilated by a growing crop."

Peruvian guano is referred to. We had always supposed that owing to the absence of moisture,

little or no change took place in the deposits of guano. Are we mistaken? We have frequently found feathers, feet, wings, and other parts of birds in guano, and is it not surprising that the "*activity*" of the "*action*" which is sufficient to break down granules of phosphate of lime, does not destroy all traces of animal life?

FACTS ABOUT NIGHTSOIL.

JUDGING from the statements made by some writers, we conclude that there is much need of definite knowledge in regard to poudrette. On this account we have been at some trouble to collect the following *facts*, which we commend to their careful study:

On an average, males from 15 to 50 years of age, void in the course of a year: Fæces, 95 lbs.; Urine, 1049 lbs. Total liquid and solid excrements, in their fresh state, 1144 lbs.

These contain:

Of *dry substance*—fæces, 23¾ lbs.; urine, 39½ lbs. Total, 63¼ lbs.

Of *mineral matter*—fæces, 2½ lbs.; urine 12 lbs. Total, 14½ lbs.

Of *carbon*—fæces, 10 lbs.; urine, 12 lbs. Total, 22 lbs.

Of *nitrogen*—fæces, 1 1-5 lbs.; urine, 10 4-5 lbs. Total, 12 lbs.

Of *phosphates*—fæces, 1½ lbs.; urine, 4¼ lbs. Total, 5¾ lbs.

The most valuable constituents of poudrette, as of all other manures, are the nitrogen (ammonia) and phosphates. It will be seen that the liquid excrements contain about *nine times as much nitrogen as the solids*, and about three times as much of the phosphates.

One hundred pounds of the *dry substance* of mixed human excrements, contain about 10 lbs. of phosphates and 17½ lbs. of nitrogen, equal to 21 lbs. of ammonia. Could such an article be manufactured, it would be as cheap a fertilizer at $70 per ton, as Peruvian guano is at its present price.

The mixed solid and liquid excrements, in the condition they leave the body, contain as much as 94 or 95 per cent. of water. It would require, therefore, from 16 to 17 tons of fresh excrements, or the quantity voided by 30 men during a year, to make one ton of dry manure.

The value of the liquid and solid excrements, according to this estimate, is about $2.33 per head, per annum. Fæces being worth 25 cents, and the urine $2.08.

One hundred pounds of fresh fæces contain 25 lbs. of dry substance.

One hundred pounds of fresh urine contains 3½ lbs. of dry substance.

One hundred pounds of the dry substance of the fæces contains 5 lbs of nitrogen, and 5½ lbs. of phosphates.

One hundred pounds of the dry substance of the urine, contains 27 lbs. of nitrogen, and 10¾ lbs. of phosphates.

One ton of poudrette made from fæces, and rendered perfectly dry without any loss of ammonia, would be worth, according to the present price of Peruvian guano, $20; while a ton made from urine would be worth $108.

The poudrette of commerce is undoubtedly made chiefly from the fæces. De-odorizing materials are also used, such as charcoal, peat, &c., and these of course, weaken the manure. Then, again, it would be extremely difficult to get the article perfectly dry. The probability is that it contains from 10 to 15 per cent. of water. So that while a ton of perfectly dry manure, made without loss of ammonia, (supposing this was possible,) would be worth $20, it is certain that a ton of poudrette containing a considerable portion of absorbent and de-odorizing material, and some two or three hundred pounds of water, will be worth very much less. Indeed, from the difficulty of driving off half or two-thirds of the water without inducing rapid fermentation—and from the large quantity of absorbent material that would be required to retain this ammonia—we do not think that a poudrette can be made from fæces that would be worth more than $12 per ton. If instead of de-odorizing absorbents, hydrochloric acid were used to retard fermentation and retain the ammonia, a somewhat more concentrated fertilizer might be obtained. But in this case it would be difficult to make the poudrette so dry that it would not contain 20 per cent. of water; and if sulphuric acid were used, the poudrette would be still more deliquescent. So that, even by the use of acids, it would be difficult to make a poudrette from fæces worth more than $16 per ton, the pure, chemically dry article being worth $20 per ton.

A highly concentrated fertilizer could be made from urine—worth, as we have said, $108 per ton; but 28½ tons would be required to produce one ton of dry poudrette.

A GREAT CORN CROP.—The *American Farmer* publishes a well attested statement from G. W. P. SMITH, of Snow Hill, Md., one of the competitors for the premium offered by the Maryland State Agricultural Society for the best yield from one acre of corn, from which it appears that he harvested *one hundred and fifteen bushels, one gallon and one quart, from one acre of land.*

The land was plowed about 11 inches deep, early in the spring, after having been heavily manured broadcast with new rotted stable manure, night-soil and wood-yard dirt. On the eight day of May, the land was run out with a large plow, in rows 4 feet apart, in the bottom of which superphosphate of lime, mixed with Peruvian guano in about the proportion of one part of the former to two parts of the latter, was dropped. The mixture was then covered with a light plow, and the rows again opened and the corn dropped, after being dampened with salt water and rolled in plaster of Paris. It was then covered with an ordinary harrow, and rolled. As soon as the corn appeared above the earth, it was given a top dressing of superphosphate of lime, at the rate of 200 lbs. to the acre; and this was followed by a slight sprinkling of plaster of Paris. The corn was left to stand at about 11 inches apart in the rows. It was harrowed twice, plowed once, and the plow was followed by the cultivator once, which is all the tillage the crop received.

PASTURING AND HARROWING WHEAT, when too luxuriant, were practiced by the ancient Romans. VIRGIL says:—"What commendation shall I give to him, who, lest his corn should lodge, pastures it while young, as soon as the blade equals the furrow?"

AMOUNT OF ROOTS FROM CLOVER AND GRASSES.

That the roots of plants left in the soil serve to enrich it, there can be no doubt. It has been estimated that the roots left in an old pasture or meadow field, are equal to four times the weight of that year's hay crop. In other words, if a ton and a half of hay had been reaped, six tons of dry vegetable matter remain in the soil in the form of roots. This estimate is deduced from a series of experiments made by Hlubek, in the agricultural garden at Laybach. The grasses he experimented on were sown in beds of equal size (180 square feet), and mown on the fourth year after sowing, just as they were coming into flower. The roots were then carefully taken up, washed and dried. The results of some of these trials were as follows:

Kind of Grass.	Produce in Grass & Hay		Produce in Roots.		Weight of dry Roots to 100 lbs. of Hay.
	Grass.	Hay.	Fresh.	Dry.	
	lbs.	lbs.	lbs.	lbs.	lbs.
1. *Festuca elatior*—Tall Fescue-grass,	124	36	56	22	61
2. *Festuca ovina*—Sheep's Fescue grass,	90	30	------	80	266
3. *Phleum pratense*—Timothy-grass,	90	25	56	17	60
4. *Dactylis glomerata*—Rough Cock's-foot,	202	67	------	22⅓	33
5. *Lolium perenne*—Perennial Rye-grass,	50	17	------	50	300
6. *Alopecurus pratensis*—Meadow Fox-tail,	106	35	------	24	70
7. *Triticum repens*—Creeping Couch or Quicken-grass,	120	60	------	70	116
8. *Poa annua*—Annual Meadow-grass,	------	------	------	------	111
9. *Bromus mollis* and *racemosus*—Soft and Smooth Brome-grass,	------	------	------	------	105
10. *Anthoxanthum odoratum*—Sweet-scented Vernal grass	------	------	------	------	93

A mixture of white clover, of ribwort, of hoary plantain, and of couch-grass, in an old pasture field, gave 400 lbs. of dry roots to 100 lbs. of hay; and in a clover field, at the end of the second year, the fresh roots were equal to one-third of the whole weight of green clover obtained at three cuttings—one in the first, and two in the second year—while in the dry state there were 56 lbs. of dry roots to every 100 lbs. of clover hay which had been carried off.

The Sheep's Fescue and the Perennial Rye-grass, beside the dead roots which detach themselves from time to time, leave, at the end of the fourth year, a weight of living roots in the soil equal to three times the produce of that year in hay. If we take the mean of all the above grasses as an average of what we may fairly expect in a grass field, then the amount of living roots left in the soil when a four-years-old grass field is plowed up, will be equal to one-sixth more than the weight of that year's crop.

In the case of clover, at the end of the second year, the quantity of dry vegetable matter left in the form of roots, is equal to upward of one-half the weight of the whole hay which the clover has yielded. We do not know of any experiments that prove it, but we have little doubt that the annual increase of clover roots, after the second year, is far less than in the first and second years, and that there is little gained by letting land lie down with clover more than two years.

As a general rule, whatever increases the foliage of a plant, increases the roots also; and hence it is that an application of plaster to clover, even though all the clover is removed from the soil, proves beneficial to the following grain crop from the increased quantity of roots left to decay in the soil.

THE CULTIVATION OF SPRING WHEAT.

Winter wheat is much more productive, and makes a finer flour than spring wheat. On this account alone, if on no other, winter wheat will always be preferred to spring wheat where the soil and climate are favorable to its production. But there is a large part of the United States where at best, winter wheat is an uncertain crop, and spring wheat a certain and profitable one.

Spring wheat requires good cultivation. The soil should be more thoroughly pulverized than for winter wheat, and should be made as mellow and active as possible. On this account it must on no consideration be plowed when wet. Better sow late with the soil in good tilth, than early with a cold, clammy seed-bed.

There are those indeed, who think it better as a rule, to sow late than early, but this opinion is founded on the success of late sown wheat in such seasons as that of 1854, and does not hold true in ordinary years. Late sowing usually produces more straw and less grain, and it is not advisable to sow very late on rich soil, for the crop will be laid.

It is useless to expect a good crop of spring wheat unless the soil is naturally dry or has been well drained—no crop suffers more from standing water.

Barn-yard dung should generally not be applied directly to spring wheat. It is better to make the land rich by manuring the preceding crop, or if the land has laid down two or three years in clover, and a portion of the clover is turned under, it will generally be rich enough. Peruvian guano sown broadcast and harrowed in with the seed at the rate of one to two hundred pounds to the acre, has a good effect and will be found profitable in the Eastern States. Unleached wood ashes and plaster have a better effect on spring wheat than on winter wheat, for the reason, we presume, that the former requires a more active soil than the latter.

Two bushels of seed per acre is about the usual quantity. We should prefer more rather than less. The seed should be prepared with chamber-lye, or with salt waters trong enough for an egg to swim in, and immediately dried with quick lime.

As to which is the best variety of spring wheat, there is great difference of opinion. The Fife, the Canada Club, the Black Sea, and the Tea are the most popular kinds in this vicinity.

Experience in Agriculture.—Xenophon, who lived 400 years before the Christian era, remarks, in his "essay" on Greek agriculture, that "no man can be a farmer till he is taught by experience; observation and experience may do much, but practice teaches many particulars which no master would ever have thought to remark upon."

Cabbage with Corn.—Mr. Brooks, of Princeton, at one of the Legislative Agricultural Meetings in Boston, alluded to the practice of planting cabbage among Indian corn. He knew an instance where cabbage was planted in alternate rows with corn, and the cabbage sold for $150 per acre.

EXPERIMENTS ON INDIAN CORN.

In the year 1853, Mr. H. H. Eastman, of Marshall, Oneida county, N. Y., made some experiments with various manures on Indian corn. In transferring the results of these experiments to our columns, we took occasion to say that the experiments were made on too small a plot of land to be reliable. Mr. E. made some similar experiments on corn, last year, the results of which were communicated to the New York State Agricultural Society, at its last annual meeting. For the sake of comparison, we have thrown the results of the experiments in 1853, and of 1855 into a table, which will enable our readers to judge how far we were right in our opinion of the reliability of such a system of experimenting:

Experiments made by H. H. Eastman, of Marshall, Oneida County, N. Y., with various Manures on Indian Corn, in the Years 1853 and 1855.

	Description of Manure.	Bushels of shelled corn per acre. 1853	1855
1.	No manure,	53½	52¾
2.	Compost in hill,	110½	82¾
3.	" on top of hill,	92½	43¼
4.	Quick lime, in hill,	50½	57¾
5.	" on top of hill,	71	52¾
6.	Gypsum, in hill,	77½	62¼
7.	" on top of hill,	79½	57
8.	Ashes, in hill,	77½	53½
9.	" on top of hill,	75½	60½
10.	Lime, gypsum, and ashes, equal parts, in hill,	81¾	55¾
11.	" " " " on hill,	73	61¼
12.	Guano, table-spoonful, in hill,	84	34¾
13.	" " on top of hill,	100	57¾
14.	Superphosphate of lime, in hill,	91¼	64¾
15.	" " on top of hill,	75¼	77¾
16.	Poudrette, in hill,	80½	72¼
17.	" on top of hill,	73½	
18.	Nightsoil composted, double handful in hill,		57½
19.	Hog manure, double handful in hill,		84½
20.	Unferm'ted horse manure, half spoonful in hill,		68¾
21.	" " " " on hill,		48¼
22.	Hen manure, handful in hill,		82¾
23.	Carbonate of lime,		72½
24.	Poudrette, guano, superphosphate, equal parts, table-spoonful in hill,		74½
25.	Do. do. do. do. on top of hill,		57¾
26.	Guano and superphosphate of lime, table-spoonful of each, in hill,		88¾
27.	Do. do. do. do. on top of hill,		63¾

In 1853, the experiments were made on 25 hills of corn; in 1855, on 40 hills,—in other words, on the one hundred and ninety-third and the one hundred and twenty-first part of an acre: so that any error in weighing, measuring, &c., is multiplied by 193 or 121 in ascertaining the acreage produce.

Look at plot 3. Compost on the top of the hill in 1853 gives an *increase* of 17½ bushels; in 1855, a *decrease* of 9½ bushels of shelled corn per acre.!

What contrary results plots 4 and 5 present! In 1853, lime in the hill causes a *decrease* of 3 bushels, lime on the top of the hill gives an *increase* of 17½ bushels; while, in 1855, lime in the hill gives an *increase* of 5 bushels, and lime on the top of the hill no increase at all,—the results in 1855 being precisely the reverse of those in 1853.

On plots 6 and 7, in 1853, gypsum on the top of the hill gives a better crop than gypsum in the hill; but in 1855 precisely the opposite result is obtained. The same may be said of plots 8 and 9, with ashes; and of plots 10 and 11, with gypsum, ashes, and lime; and of plots 14 and 15, with superphosphate of lime. It is difficult to conceive that difference in soil and climate can account for such anomalous results.

We make these remarks in order to show that although some of our agricultural societies have called special attention to these experiments by an award of premiums, &c., they are really incapable of demonstrating anything—except it be the inaccuracy of such a system of experimenting.

The Origin of Horse-Hoeing.—Horse-hoeing beans, wheat, &c., was a common practice in Roman agriculture, the origin of which is thus given by Pliny:

"We must not omit," says he, "a particular method of plowing at this time practiced in Italy beyond the Po, and introduced by the injuries of war. The Salassi, when they ravaged the land lying under the Alps, tried likewise to destroy the panic and millet that had just come above ground. Finding that the situation of the crop prevented them from destroying it in the ordinary way, they plowed the fields; but the crop at harvest being double what it used to be, taught the farmers to plow among the corn" [wheat]. This operation, he informs us, was performed either when the stalk was beginning to appear, or when the plant had put forth two or three leaves. The wheat being generally sown in drills, or covered with the plow, so as to come up in rows, readily admitted this practice.

Weeding and stirring the soil were performed; the first by cutting with a hook, or pulling the weeds up with the hand; and the second by sarcling or hoeing. Beans were hoed three times, and wheat twice; the first time they were earthed up, but not the second or third; "for," says Columella, "when the wheat ceases to tiller, it rots if covered with earth." Lupines were not sarcled at all, "because, so far from being infested with weeds, they destroy them."

Corn Cobs for Wire Worms.—A correspondent of the *Maine Farmer*, J. H. Cole, of Vassalboro', says:

"Having a piece of ground, last spring, to sow with wheat, that had for years been infested with wire worms, and taking the hint from the fact that pieces of dry corn cobs deposited in the hill with seed corn will prevent the worms from eating the kernels, before plowing the ground I sowed on three bushels of broken, dry corn cobs to the acre, and plowed them in, leaving a strip across one end without cobs, and sowed the whole to wheat. I observed it carefully, and found that though considerable was eaten and dead where the cobs were not sown, there was no damage done where they were. When cobs are put in ground infested with wire worms, whether the cobs are put in the hills of corn or plowed in, if we examine them we shall find the worms have worked themselves into the pith of the cobs at one or both ends, and when in them they are not preying upon the growing crop."

MILLET FOR SOILING AND FOR FODDER.

A pretty thorough examination of the recorded experience of practical farmers during the last twenty years, has led us to the conclusion that in this climate no plant has given such general satisfaction for soiling purposes or for fodder, as millet. In Germany it is cultivated principally for the seed, which is frequently used instead of rice. In this country it is generally raised for fodder, or for fodder and seed together. Large crops have been grown. In 1841, Mr. G. Jones received a premium from the Tompkins County Agricultural Society, for having raised, on two acres, five and a half tons of millet fodder and sixty-three bushels of seed. Twenty quarts of seed were sown per acre on the 8th of June, on new land. T. B. Shepard, of Buffalo, N. Y., says, in the last volume of the *Genesee Farmer*, page 181:

"In 1851 I sowed four acres of millet (four quarts per acre) the 16th of June, and had as much fodder as from any eight acres of grass that year—and it was a good year for hay. I have raised from four to eight acres every year since, and have invariably had good crops of not only fodder or hay, or straw equal to as many tons of the best timothy hay, but from twenty to thirty bushels of seed to the acre, equal to as many bushels of corn to feed to any kind of domestic animals. I feed the most of my seed, after having it ground, to milch cows, preferring it to Indian meal, as making more milk and of as rich quality. The last season I had six acres of millet, which has been worth more than $50 per acre, or $300 for the six acres. I have fed 35 cows on the straw since the 25th of January, and have enough left to last until the 1st of May, and got 120 bushels of seed from the lot. The ripest of the seed, some sixty bushels, I have sold for seed, and the balance I am now feeding to my horses, and find they do as well on the meal put on cut hay and straw, as they did when I fed an equal quantity of corn and oat meal."

The great German agricultural writer, Albert D. Thaer, says:

"Millet requires a warm, rich, sandy, well pulverized soil. It succeeds better when sown after some crop which has been abundantly manured, than it does when sown immediately after an amelioration of undecomposed manure.

"A soil must be tilled to a great depth for its reception, and plowed three times, besides being harrowed, rolled, and thoroughly freed from weeds. Many farmers dig their ground to a great depth previous to sowing it with this plant; but a good plowing answers the purpose equally well. Millet is in general very successful on newly drained land, provided that it is in good condition, and also land which has been left in repose for several years; in the latter case a single plowing is sufficient, if the soil is subsequently harrowed, and well broken up with a roller, before the seed is put into it. When this class of soils are too dry for linseed, there is no more profitable means of employing them than by sowing them with millet.

"Millet should be sown in May; a harrow is then passed lightly over the soil, and, where the ground is dry, a roller must also be used. The seed must be thoroughly ripe, perfect, and free from disease.

"As soon as weeds make their appearance among millet which is just shooting above ground, they must be eradicated by weeding. This is absolutely necessary. * * * The best way is to tear up the weeds with hand rakes constructed for the purpose. This mode of proceeding answers far better than hand-weeding, as by its means not only all the weeds may be eradicated, but the supernumerary plants may be thinned off. The effect of this cultivation on the success and vegetation of the crop is wonderful; after it, the millet shoots up so rapidly that the weeds seldom have time to grow again, or, if they do, it is in very small numbers, and they may easily be pulled up."

Mr. A. Y. Moore, of Schoolcraft, Mich., in a letter published in the *Country Gentleman* for April 5th, 1855, says:

"Millet has been a favorite crop with me for the last five or six years. There is no kind of hay that my stock of all kinds prefer to millet; and if the land is rich, and it is well put in, and good seed, it produces well. I have had as much as four tons to the acre. After it is taken off in the fall, the land is in good order for wheat, by being once well plowed; not yielding quite so heavy a crop as a summer fallow, but quite good."

Mr. L. M. Bartlett, of Lasalle, Mich., says:

"For hay (cut when seed is half ripened) it is superior to any crop I have ever tried. On rich lands it may be made to yield from four to six tons per acre. It is excellent for horses, when well cured; they are particularly fond of it. Cattle prefer it to best Timothy or clover. * * I have been feeding my entire stock on this kind of hay for the last fortnight, and all seem satisfied, even the calves."

Mr. Moore's method of cultivation is as follows:

"I will now give you my process. I plow early in the spring, at the time that I plow for oats or corn—harrow once—then after oats are sowed, corn planted, and other work done up, say from the 1st to the 10th of June, plow the ground again, harrow well, and sow about twelve quarts seed per acre; harrow well again, and it should be rolled, in order to make a smooth surface for mowing. It comes up slow and fine, but grows very rapidly in hot weather, say July and August. It is fit to cut in September, when the seed is out of the milk, or pretty solid. It does not hurt by standing, even till frost comes, except that it loses seed. Some folks cradle and bind it in sheaves, but I prefer to mow it, and put it in cock green; let it cure in cock; it may want airing, but put it in cock again to undergo the curing process. If it should rain and wet the hay, open the cocks till dry, and put it up again. It is a very rich, nutritious feed, in consequence of the abundance of seed, which all kinds of stock are fond of."

There is some difference of opinion as to the proper quantity of seed per acre. Jesse Buel thought four quarts per acre sufficient, while others recommend as much as twenty-eight quarts per acre. If raised for seed, and sown in drills two feet apart, as Judge Buel recommended, probably a peck to the acre would be all the seed required; while if sown broadcast for soiling purposes, as much as three pecks might be sown with advantage. The richer the soil, the more seed should there be sown. If sown thin, on rich land, the stems are coarse and hard, and not so good for fodder.

Millet is doubtless an exhausting crop on a wheat farm. It draws heavily on the soil for those elements most needed by wheat, barley, oats, corn, &c. We would not advise its cultivation on land intended for wheat. When raised for fodder, or for soiling, a rich alluvial soil, abounding in organic matter, and which will not grow wheat, is just the kind of land for it. Large crops can be grown on such land in dry, hot summers, when all other forage crops are light. So that the land is rich enough, the weather can not be too hot or the soil too dry for millet.

THE CULTIVATION OF BARLEY.

The best samples of American wheat are much superior to the English, but our barley will not compare with theirs. The short, dry, hot summers of this country ripen the barley before it has attained its perfect development. Nevertheless, although this climate is not well adapted for the production of barley of the best quality, yet there are many reasons why barley will always be a favorite crop with American farmers. On wheat farms, it is supposed to exhaust the soil less than a crop of oats or corn, and it is harvested early enough to allow of ample time to prepare the land for the following wheat crop. The straw of barley, when cut before it is dead ripe, and especially if the land has been seeded down with clover, as is the practice in England, is preferred by cattle to that of wheat or oats.

Owing to the shortness of our season, it is very desirable that barley should be sown as early in the spring as the soil can be got into good condition. Light, warm, gravelly soils, if in good heart, and the ground be not too dry, are most favorable for the production of barley. Good crops, however, are often obtained from rich bottom lands when the seed is put in in good condition. Fine tilth is absolutely necessary to insure a good crop of barley. We have known excellent crops obtained after potatoes or corn, without plowing in the spring, the land being well worked with the cultivator and harrow.

In England, three bushels of barley per acre are usually sown, and a few years ago as much as four bushels was not uncommon. In this country two bushels is considered sufficient, though two and a half, in our opinion, is better. The seed should be well covered with the harrow, and the ground be left as fine as possible. When the barley is about an inch high it should be rolled. If more convenient, however, the rolling may be done at the time of sowing. In rolling when the barley is up, it is better to roll round the field, and thus avoid turning short, and pulling up the grain.

Barley should never be sown on recently inverted old sod. Oats are a much better crop for such land. The best crop of barley we ever saw was on a heavy clay soil that had been summer fallowed the preceding summer, with the intention of sowing it to wheat. For reasons which we need not mention, wheat was not sown, and early the next spring, the field was sown to barley, and such a crop we never saw before or since. Barley, however seldom does well on heavy clay soils—nothing like as well as oats.

A Nut for the Special Manure Theory Men to Crack.—Professor Way truly says: "The crops which are most benefited by the application of gypsum, contain far less of either lime or sulphuric acid, than those upon which this manure produces no kind of effect." We may also add that the same may be said in regard to phosphate of lime, potash, &c. The crops which are most benefited by their application contain the least of these in their ashes. When will those writers, who recommend the manures corresponding to the ashes of the plant to be grown examine this subject?

Every farmer should see daily every animal he has, and inspect its condition. Weekly visits, as with some, soon result in weakly animals.

CULTIVATION OF HEMP.

We make the following extracts from an excellent article on the Cultivation of Hamp, in the *Valley Farmer*, published at Louisville, Ky., and at St. Louis, Mo. It is excellent authority on this and kindred subjects:

"The chief supply of hemp for Naval purposes in the United States, is derived from Russia. Recently, efforts have been made by the United States government, to obtain a supply for the Navy from our own soil; these efforts promise to be successful. American water-rotted hemp is ascertained to be superior to that of Russian growth. Hemp of the best quality may be grown in Kentucky and Missouri, sufficient to meet all the domestic and Naval demands of this country, and there is no good reason why it should not be grown, and render us independent of a nation thousands of miles distant. * * * *

Soil and Preparation.—Hemp should never be sown on foul or worn land. Such land will never yield hemp of a uniform length and quality; but the land should be clean, dry, light and rich; these are requisites that must always be considered, or much labor will be spent in vain.

Hemp is frequently permitted to follow hemp on the same land, when a similar course with almost any other crop would not be tolerated by a good farmer. Hemp is said to be less exhausting to land than the cereal grains, and it leaves the ground in more perfect order for the same crop than any other. If hemp is to be sown on ground that produced hemp the year previous, the plowing should be done as early in the spring as the condition of the land will admit of thorough preparation. Under no circumstances should land for this or any other crop, be worked unless it is so dry as to pulverize well.

If hemp is to be sown on sod land, it should be broken up in the fall. On clover, and more particularly timothy sod, it is better to plant one year in corn, before sowing with hemp; if the corn has been well cultivated, the land may be put in fine condition for this crop. * * *

The first plowing should be deep according to the depth of the soil. Let it lay in this condition until about the time of sowing, then it should be well harrowed with a heavy harrow, and then well rolled. The use of the roller, unless upon very mellow land, should be regarded as indispensable in preparing land for this crop. After it is well rolled it should be cross plowed, again rolled, and then harrowed. It is now ready for the seed.

Quantity of Seed per Acre.—In regard to this, as in most other crops, there is a diversity of opinion among farmers, but we believe the experience of a majority of them is in favor of sowing from four to five pecks of seed to the acre, according to the quality of the soil—the richer the land the greater quantity of seed should be sown.

The seed should be sown upon freshly harrowed land; after the seed is cast it should be again harrowed and then cross harrowed. If the previous work has been well done, the soil will be open to a free circulation of the warm air to the full depth the land had been plowed, inviting the roots to penetrate uniformly and deeply, beyond the casualty of drouth.

Time of Sowing.—The time of sowing this crop varies according to the opening of the season, and the strength of the land upon which it is to be sown. Strong land will bear the earliest sowing. If sown too early, the growth is apt to be short; if too late, it is at the expense of the quality of the lint. Between the degrees of latitude 38 and 39, the proper time of sowing will generally range between the 20th of April and the 15th of May."

IRRIGATING GRASS LAND.

THE following from an interesting article on "Manures," by JOHN W. LINCOLN, Esq., of Worcester, Mass., published in the *Patent Office Report*, will be read with interest. Irrigation is a subject worthy the attention of every American farmer:

"There is another fertilizer which I think much more of than any other—I mean that of *water*. I have practised irrigation for more than thirty years, and I know of no means by which land can be improved so certainly and so cheaply as by water, where it can easily be obtained.

"I have on my farm a copious spring; it is situated on the side of a hill, within a few feet of the spot where the water is discharged from the earth. I have made a ditch, but little descending in its course, on the side of the hill; turned the water into the ditch, and use it in irrigating the land. The quantity is sufficient for watering some two acres, and the result has been highly beneficial.

On most farms situated in part on a side hill, there are usually one or more streams of water descending from the higher parts of the hill to the valley below; although they may not be lasting, they usually continue from the early part of the spring until about the first of June, and sometimes longer. All such streams may very profitably be used in irrigation. I have on my farm a run of waters so situated, and use it most profitably on what is called the catch work plan of irrigation; and, although the supply of water fails earlier in the season than I could wish, yet I have the benefit of it until I have secured a thick growth of grass, sufficient to secure the land in a great degree from the effects of a drouth, should one occur before haying, and thereby make sure of a greater grass crop than I could otherwise have obtained.

"The expense attending this improvement is very inconsiderable. An intelligent man, with one to assist him, with the aid of a level, will in a short time stake out the course of his ditch on the side of the hill, giving a slight descent from the place of taking in the water in the direction it is to run—1 inch in 10 feet is sufficient; then, with a team and plow, turn the land from stake to stake, which should be at short distances, to make the ditch more perfect down hill. It will be desirable to take two furrows in the same direction. The ditch is then easily finished with a hoe. After one ditch is made, another, some 20 or 30 feet farther down the hill, may be made to receive the water flowing over from the first, and again distribute it equally for use, and so continuing to the bottom of the hill. When the water is admitted into the ditch, which should be formed so that the water will trickle over its banks for its whole length, it will from the inequality of the land, soon form itself into little rills; hence the necessity of a second ditch for another equal distribution. There are frequently on these side hills, hollows, and places where a dam may be made at a small expense; and a reservoir may be formed for retaining and better controlling the water, which will add greatly to the benefits that may be secured from this improvement.

"I have known land watered in this manner to produce as large a crop of grass as could be dried on the ground, for many years in succession, having no manure except that which it obtained from the water, and from the dropping of the cattle when feeding off the after feed. This land has since passed into other hands; the use of the water has been discontinued, and the crop of grass is comparatively very small—not one quarter what it was formerly.

"The cost of this kind of irrigation is usually very small, generally less than the value of the improvement for a single year.

"There are commonly, on the sides of every stream, quantities of land which may be irrigated to great advantage. For the purpose of taking out the water, a dam would be necessary across the stream, and the expense must depend upon its location; and whether it would be expedient to erect such a dam would very much depend upon the quantity of land that could be irrigated by its aid. Frequently, by going farther up the stream, a slight dam may be sufficient to turn out the water, although it will require a longer ditch to convey the water to the land to be irrigated. The longer the ditch, the larger it should be to convey the proper quantity of water. There is much land where this improvement may profitably be adopted. They who are disposed so to do will find it much to their advantage to employ a person skilled in the use of a level to stake out the work for this improvement.

"My farm is on the bank of Blackstone river, across which I have a slight dam, by which I take out the water and irrigate about 30 acres of land; and on no other land do I get so profitable a crop. It requires much attention, to be continued daily when using the water, in turning i from place to place, that all may alternately be watered, and preventing it from running too long in the same place, which would be attended with injury. If, by the use of water, a drifting sand may be converted into a luxuriant field, how much benefit, then, may be expected when water is applied to a good soil?"

HARROWING WHEAT IN THE SPRING.—A. S. SMITH, Nichols, Tioga Co., N. Y., writes the *American Agriculturist* that about 18 years ago his grandfather had a piece of fall-sown wheat on new land, which, showing no signs of vegetation in the spring, was sown with two bushels of oats and one bushel of plaster per acre, and harrowed in. He says:

"At harvest we had the largest crop of grain I ever saw cut on the ground with a cradle. It yielded about 20 bushels of wheat and 30 bushels of oats per acre. We tried it bolted for bread, but it was not palatable for man though we had the best lot of horse feed in the neighborhood. I was well convinced at the time, and forever after, that the harrowing and plaster brought that wheat forward. Since that time I have harrowed new ground wheat several times, and invariably with great success. The harrow should be very sharp, and not a very heavy wood."

Wheat should be harrowed the same way as the furrows or drills, and only when the ground is quite dry.

ACCLIMATING SEED CORN.—In an article on this subject in the *Country Gentleman*, W. E. BOISE, of Blandford, Mass., states that he has often brought seed corn from low sandy land in Connecticut, that would barely ripen with him the first season, but by cultivating it a few years, it became as early as corn usually raised in the vicinity.

Seed corn brought from near Mount Monadnoc, New Hampshire, ripened earlier the first than the second year's planting, but by selecting seed for a number of years from stalks that ripened first, and produced from two to three ears, he obtained an early and very superior variety.

He recommends farmers who lost their corn by the frost last year, to obtain seed corn that was sown on high land, and from a latitude north of their present location. By so doing they will be "almost sure of a variety that will ripen before the autumnal frosts."

NOTES ON POTATO CULTIVATION.

In the March number of the *Genesee Farmer* you call for the experience of farmers in potato cultivation. I give you mine for the information of brother farmers, as far as I am competent. I generally raise about five acres every season, and have tried various experiments.

I have become satisfied that to raise good potatoes and plenty of them, land needs high manuring; and where coarse dung is to be used, I prefer applying it in the fall and plowing under so deep as to cover it thoroughly. Then in the spring before planting, plow again, as deep as you have team to do it. Yet one of my neighbors raises great crops of potatoes by applying coarse manure directly on the potato set, and covering both with the earth to sufficient depth. The best potato crop I ever raised, was grown in the following manner: I placed a shovel full of hog manure upon each hill, and also a handful of unleached ashes, before covering. Variety, *Round Pink-eyes*. Yield at the rate of 280 bushels per acre. They were planted in hills 3½ feet apart each way, about the 8th of June. The tops grew rank, and I think had it not been for early frost, which killed them, the yield would have been larger.

During the past three years, I have planted my potatoes in drills about three and a half feet apart, instead of planting in hills, as I had done formerly, and as the result, I can raise nearly as much again from the same ground, and not apply over one-fourth more work. I mark the ground—after it is plowed and well harrowed—to a reasonable depth, according as the season bids fair for wet or dry, marking deep if likely to be dry, and shallower if wet. I then place the potatoes in the rows about eighteen inches apart, and if the ground has not been manured sufficiently before plowing, I drive my wagon with manure along the rows, spreading the manure in the rows on both sides, and behind the wagon as far as convenient. I then cover with the hand hoe; and if there is no manure applied to the sets in the rows, cover with the plow. I never plant but one potato in a place, no matter how small that may be, and I frequently cut the larger ones into two or more pieces, according to size. By planting only one potato in a place, I get fewer small potatoes and more large ones.

The time for planting, is from the first of May until the middle of June. I prefer late potatoes for winter and spring use. I mostly plant Pink-eyes and Mercers; they command a ready sale at any time, and are as good a potato for the table as any in general use.

In cultivating potatoes in this way, the horse cultivator or drag should be passed through between the drills as soon as the rows can be traced by the tops, or sooner if the weeds are starting. In this way I keep them down, and save much labor in hoeing. When the potatoes are from four to eight inches high, I go through twice in a row with the plow, throwing the soil to the drill. A man with a hoe follows and hauls the dirt around the plants, thus covering all the weeds and plants that the plow misses; this is done almost as quick as the plowing. When the grass and weeds begin to start again, I spread the wings of the cultivator so as to reach from drill to drill very nearly, and pass once through the row, thus turning the dirt between the drills slightly; and in a few days plow them twice in a row for the last time, throwing the soil to the drills. Let the hoe follow the plow each time. My potatoes are then clean, and so large that the tops will nigh cover the ground. This mode of culture might not answer on all soils, but this is my experience on prairie soil, which is generally of a black color, and a little sandy.

I have never observed any difference in regard to the disease, when manure was plowed under and thoroughly mixed with the soil, or applied directly in the hill. A few years ago when the potato disease was very destructive, my potatoes rotted as bad where there was no manure as where the richest manure in considerable quantity was applied. I think they were not quite as bad where unleached ashes was used.

With regard to planting potatoes on clover sod, it is beyond a doubt the best place to plant if no manure is to be used, and as good crops are often raised upon this, as upon the same kind of land with some manure. The clover sod should be plowed early in the spring, and dragged thoroughly, for late plowing will not give it a chance to rot sufficient to plant and tend with ease. Then before planting take a large two-horse cultivator and stir the soil well; then proceed as in old ground. By this means the sod rots first, and furnishes food for the potatoes to grow upon. By the time it is necessary to put the plow amongst the potatoes, the sod is rotted sufficient to work with ease as deep as is necessary the first time, and the second plowing may go as deep as the ground was plowed before planting, if necessary.

The thorough dragging before planting tends to rot the sod, and when the cultivating is over, the ground is quite fit for planting with ease with the hand hoe. Perhaps some may think this is too much work, but they will find that the better order the ground is in, the better will be the crop—more than sufficient to "pay." On most soils, deep plowing pays the best. Some compost or well rotted barn-yard manure thrown over the land before cultivating, greatly increases the crop. E. WOOLVERTON—*Milan, Ohio, March, 17th*, 1856.

CUTTING DRAINS IN THE SPRING AND FALL.—A correspondent of the *Ohio Farmer*, C. SPRINGER, Meadow Farm, Ohio, says:

"Some six or seven years since, I put one hundred and sixteen rods of French drain, in a meadow, which redeemed from swamp and sour-grass about one and a half acres, which is now worth, for pasture or hay, 50 per cent. more than the balance of the field. This was all done with the spade and shovel, at a cost of nineteen cents per rod; stone being convenient, and counting nothing for boarding or the use of the team.

"This last job was done in August. But last March, one year ago, I made some twenty rods, under about similar circumstances, with the spade and shovel, which cost but ten cents per rod. These two experiments show the difference in expense, between making your drains in the spring, when the frosts and rains of winter have loosened and softened the soil, and making them after the ground has settled, and become dry and hard."

The drains were cut about 18 inches deep, and 18 inches wide; stones, about the size of a brick, were laid on each side the drain and covered with a flat stone, or "leveling the whole up with spawls;" place a little straw on the top, and throw in the soil with a shovel or plow.

SOUND CORN AND RIPE PUMPKINS.

Corn is easily raised if managed in the right way and at the right time. The ground should be plowed eight or ten days before planting, that it may be thoroughly aired and warmed. The seed should be the best that can be procured, and planted when warm weather has fairly set in.

My plan is to soak the seed some thirty-six hours in a solution of saltpeter, say one ounce to eight quarts of seed, with sufficient warm water to cover the whole. Corn prepared in this way is not relished by crows, and will soon present itself, with broad, dark green leaves. In marking corn ground, if intending to row but one way, the rows should be due east and west. As much depends on this as on any one thing, in raising sound corn. My reason for this opinion is, that when corn is planted in this way, the sun shines upon the ground (no matter how big the plants are) from morning till night. When rowed but one way, and that north and south, as is the custom generally, the ground is shaded from five in the afternoon till eight the next morning, making a difference of five hours—no small consideration. The one method has a tendency to keep the ground warm all night, while the other gives it a good chance to get cold.

Since following the above rule my sound corn has been thirty bushels to one of soft.

As to the manner of securing corn and corn-stalks, if the ground is not wanted for fall wheat or rye, I prefer letting the corn remain on the hill. When the corn is well glazed, I cut off the stalks close to the ear, bind and shock them in the field for winter use. I consider corn left to ripen in this way will yield better, and be much sweeter and heavier than when cut up by the roots. The extra fodder below the ear is not an equivalent for the time spent in husking at a season when everything else requires our attention, to say nothing of many other disadvantages.

If left on the hill, you can husk when you please, and secure your corn with one half the labor that it takes when cut up and put in shocks. In the one case you have the satisfaction of moving your limbs and enjoying the fresh air, as you move your basket from hill to hill, stripping down the clear white husks, exposing to view corn that is as hard and substantial as the hands that husk it; while in the other, you are confined to the field, the barn, or some miserable old hovel, perched upon a bunple of damp corn stalks, with another thrown across your legs, endeavoring to extricate the slippery, half-rotten corn from its moldy covering.

Such are the lessons I have experienced in raising this best of all grains, when ripe and sound, but if not, the very poorest. Being particular to let the sun in upon corn ground, the advantage of planting pumpkins by themselves, will be at once seen. I will here give my experiment in raising this vegetable last year. Early in the spring I broke 70 rods of old pasture expressly for pumpkins. The reason I did this was, the year before I planted a portion of this lot to corn and pumpkins, and the wire worm destroyed the corn, leaving the vines unharmed. The first week in June I fitted the ground, and planted. Rows 4 feet apart, hills 2 feet in the row, one seed in a hill, put in with the thumb and fore finger, two inches deep. Hoed but once, at the time the fifth leaf made its appearance. The vines soon covered the ground, forming a complete mat, covered with blossoms, and bees into the bargain.

Many predicted at this time but few pumpkins, and I had but little faith myself. However, time passed. The first frost in September laid the leaves low, and revealed to my eyes a sight they never beheld before—the ground completely covered with large, bright yellow pumpkins. I had upon this 70 rods of ground, 15 loads, worth in the field $1.25 per load, which amounts to $18.75 from seventy rods of ground, or $42.84 per acre. The cost of cultivating an acre is about $6, leaving a profit of $36.84.

It is my opinion that farmers would gain by planting corn and pumpkins separately. Although some may think this a small profit from an acre of ground, I consiker it "some pumpkins" for Allegany. J. C. Adams—*Seymour, Allegany Co., N. Y.*

Roads and Road Making.—The *Ohio Cultivator* gives some good hints on this subject, from which we extract the following:

"Having elected an efficient Supervisor, let us set him to work. Our roads are too wide. No road can be kept in good condition unless it is thrown up in the middle. From the center the water should run off *at once* to the ditches. It ought not to be allowed to run in the wagon rut, cutting it into a gutter. We have never seen one of these wide roads so thrown up. It ought therefore to be made just wide enough for two wagons to pass each other.

"One of the best ways to carry the dirt to the center is, to take off the shovel from a shovel plow, and fasten to the plow a heavy oak board, one foot wide, and two and a half feet long, beveled at the lowest edge, which will be better if ironed. With this implement and a horse, the work can be rapidly done. No stumps should be left in the road.

"Having made it, the great difficulty is *to keep it in order.* This would be no difficulty, however, if the Supervisor would closely watch when the water is beginning to wash a gully, or to run in the wagon track, and *immediately* call out a hand to prevent it. A road, in this way, might always be kept good, so far as it is possible to do so. In wet weather, in a clay soil, roads will get deep; no underdraining will prevent it. It is the ruts and stumps which make our roads so bad; and the course indicated would prevent the one, and eradicate the other. And such a course would, in the end, save a thousand per cent of the labor now given to our roads."

Peas should be Planted Deep.—The *Ohio Farmer* says:

"In the culture of peas, one old routine is almost invariably practiced, viz.: Plant them about two inches under ground, in drills, and as they grow, draw earth up to them, so that when they come into bearing, and just when they require the most nourishment, moisture, &c., they get the least, for all showers of rain, by means of the drills, or ditches, run rapidly off the ground, and the sun has far more effect in drying rapidly after rains; to these add the fact that a shallow planting, and so drawing up earth afterward, nearly all the roots are near the surface; hence, early maturity, and as early decay. Experiments in planting, four years, at different depths, have shown that the pea will grow freely in good, mellow, loamy soil, at a depth of one foot; but at the same time, we would recommend planting in generality of soils, at say, six to eight inches deep; by so doing, your peas will come as early as when planted only two inches deep—will grow stronger, produce more, and continue longer."

NOTES BY S. W.

The failure of that experiment noticed in the last *Farmer*, of plowing in clover to a clay soil, was doubtless owing to the omission of that cross plowing, which would have let in heat and oxygen from the atmosphere to decompose the green clover beneath. But the full benefit of long or undecomposed manure, plowed or trenched into a heavy soil, is only realized in a warm, dry season, and then only under thorough tillage. Although many short crops of Indian corn were grown here in the dry hot summer of 1854, yet under skillful tillage and manuring, the crop of that cereal never was greater; on the other hand, the best of tillage and manuring failed to mature a single great crop the last cool, wet season, for the very reason that the manure applied to it would not decompose and furnish the growing plant with the necessary carbonic acid and ammonia, during the long days and short nights throughout which alone corn matures or rather fills its cereal product. But the undecomposed manures are not lost; this year's crop will have the mechanical as well as the chemical benefit of the undecomposed matters of last year. The reason why a sandy or gravelly loam is quicker than clay, is because its higher temperature decomposes vegetable matter faster, and this is one reason why sandy land loses its manure so much quicker than clay loam. But the main cause is found in the fact that clay has greater affinity for ammonia, and a power to retain it which sand has not.

Much is written of late on the relative value of small and large potatoes for seed. Experiment fully proves that large potatoes are best, if they do not cost too much; medium or less sizes do well for seed, but it will be found that very small seed potatoes are not to be relied on, even on the best soil, as the vines will inevitably be slender, and the tubers few and small; such at least, is the result of one experiment.

It is said that some men can digest a well written article at a glance; but I confess that it was only on the second reading of your leader in the last *Genesee Farmer*, on the "Cultivation of Potatoes," that I was fully impressed with its importance to the potato growing farmer. How true it is that although potatoes require the same manurial ingredients as wheat, yet the mechanical structure of the soil should be entirely different. Wheat requiring a compact aluminous soil; potatoes, muck, or a loose and friable sandy or gravelly loam. Repeated experiments have proved that hog or distillery manure is the best for potatoes; as those who have repeatedly tried it have had large and early yields and but little rot. Old sod plowed under in the fall is probably next to it, but unless manured in the hill the incipient plants may suffer for food before it is supplied by the fermentation and decomposition of the old sod, particularly if the season is cold and backward.

How long our winter is to lap on to the spring remains to be seen. Thus far, March 10th, there is no amelioration of winter weather by night, and very little by day; the two past mornings found the mercury at five degrees below zero at sunrise, and at noon to-day it is only ten degrees above zero. This is the coldest winter of the century, although in this particular locality, the mercury has not in any instance sank so low, by 15 degrees, as it did during the two cold nights of February, 1855. Then some of our grape vines were killed to the roots, and no peach buds escaped. Thus far this year they have kept alive. But if we credit the ancient records, the present winter will not compare in severity with the winters of 1717 and 1741. It is recorded that in the latter winter a man drove a horse and sleigh on the ice from Hurl Gate down Long Island Sound, and continued on to Cape Cod. Dr. McSparren, of Narragansett Church, leaves record, that from the top of Tower Hill no open water could be seen at sea. S. W.—*Waterloo, N. Y.*

Potatoes—Butt Ends vs. Seed Ends.—John Brown, of Long Island, communicates the following to the *Granite Farmer:*

"Several years ago, I made some experiments to satisfy myself concerning the disputed point as to which is the best portion of a potato to plant in order to obtain the largest and best yield. The exact result has been lost, and as I have often since heard and read assertions directly contrary to the conclusions which I then deduced, I resolved to repeat the experiments. Last spring I planted four rows of equal length, side by side, with two varieties of potatoes. In one row I planted none but the seed ends, so called, including about one-third of the potatoes, and in the next row I planted the butt ends of the same potatoes. I had one row of seed ends and one row of butt ends of a variety called Peach-blows. The yield of these four rows was as follows:

Pink-eyes, butt ends	217 pounds.
" seed ends	170 "
Peach-blows, butt ends	225 "
" seed ends	179 "

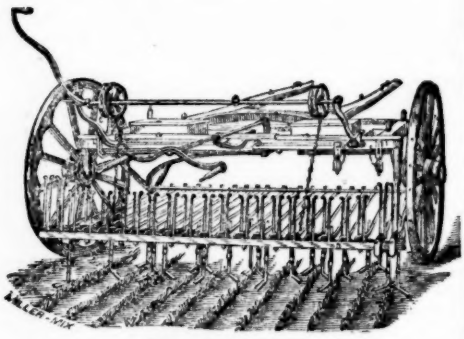
The potatoes raised from the butt ends were much larger than those from the seed ends, and appeared to be from a week to ten days earlier. This result corresponds with that of my former experiment. Had the whole field been planted with butt ends, the yield would have been more than five hundred bushels to the acre. I also planted two rows next to the above; in one of which I put only large potatoes, half a tuber in each hill, cut lengthwise so as to divide the eyes equally, and in the other row I dropped only small potatoes, one in each hill. From the former I dug 181 pounds, and from the latter 134 pounds. I should add that the average yield of the field was about 180 lbs. to the row; and that large (not the very largest) potatoes were used for seed cut lengthwise with a half of a tuber in each hill."

The Yellow Locust.—Mr. S. Cune, of Brattleboro', Vt., writes the *Country Gentleman* as follows:

"I will tell you how I managed to get a grove of yellow Locust trees. About twenty years ago, I sowed half a pound of locust seeds in beds, the same as I sow beets or carrots. I prepared my seed by pouring hot water on it and letting it stand a few hours. The next spring, I took up my seedling trees, and set them out on a piece of ground that was so poor that it would hardly turf over. I plowed some furrows twelve or fifteen feet apart, laid the roots of my seedling trees into them, about two feet apart, covered them with my hoe, righted them up with my hands and let them go without further cultivation. At this time I have a beautiful grove of trees, straight and thrifty, and many of them long enough for fence posts. The effect on the land is wonderful. It produces ten times the food it did before the trees were set out. When I took possession of my farm, I found that acre had been skinned until it was almost worthless. Now it produces double the feed of any acre of pasture I have. I take no little pride in showing my trees, and the luxuriant growth of white clover under them."

WHEAT HOEING MACHINE.

Since the days of Jethro Tull, wheat drilling, dibbling, hand and horse hoeing have been more or less practiced in Great Britain. Drilling wheat, barley, oats, peas and tares in rows 7 to 12 inches apart is nearly universal. Dibbling—dropping one seed on each square foot, and so using but a few quarts of seed per acre—is adopted only by such men as Hewitt Davis, Mechi, and Huxtable. They have found that while it sometimes gave large crops, yet they always had more or less that missed and had to be plowed under in the spring, and the loss from such cases more than counterbalanced the gain from sowing less seed. These enthusiasts, though they will not own it, have dropped the system. Hand-hoeing twice at a cost of $2 per acre is found very profitable, from increasing the yield of wheat, and still more, from leaving the land clean for the following turnip crop.



Garrett's Horse-hoe.

Wheat hoeing by machinery is a delicate operation. It requires a steady hand to steer straight and avoid cutting up the plants. With Garrett's Horse-hoe, here figured, wheat hoeing has been cheaply and effectively performed, and there appears to be good reason to expect that the practice will soon become more general. Wheat can be hoed with it for twelve cents per acre.

The engraving gives such a correct idea of the machine, that little explanation is needed. The thills can be fastened on any part of the frame. The axle-tree is movable at both ends, so that it can be expanded or contracted to suit all lands and different widths of drills. Each hoe works on an independent lever, and thus adapts itself to all inequalities of surface. The hoes can be set to any desired angle by means of the crank on the left side of the machine; it is attached by chains to the jointed iron on which the levers are suspended. The swing steering apparatus is seen at the back of the machine. The cutting blades are made of steel, and of various sizes. Cost, in England, from $75 to $100.

Every farm wagon or cart should have the cubic feet and bushel contents graven upon the bed before it leaves the maker's hand. A cubic yard is 27 cubic feet; and a cubic foot is 1,728 inches; a cubic cord is 128 cubic feet.

Fences operate in two ways; if good, they are a defense, if poor, an offense.

The Michigan Double Plow for Europe.—We have sometimes recommended our English friends to try the Michigan double plow in plowing their wheat stubble in the autumn for turnips the next spring. For breaking up the soil to a great depth, and for smothering weeds, the British farmers have no implement that can be compared to it. A pair of their heavy horses would take it along easily fifteen inches deep. The Canada West correspondent of the *Mark Lane Express*, also recommends it to English farmers as follows:

'We would recommend to the attention of English farmers an American plow, which we here now use to great advantage. It is wide on the sole, and has, preceding the ordinary mold-board, a smaller one mortised into the beam, and regulated in hold by a screw; this turns a thin paring of say two or three inches from the surface into the bottom of the furrow, and is invaluable in clover-lays or dirty stubble. In spring, after it, you will see no grassy, stubbly strip marking each furrow, but all is a clean, fallow-like surface, ready to work with the cultivator or grubber into a most beautiful seed bed for peas or spring grain, giving the seed the advantage of the frost-mellowed surface soil, without danger of a foul tillage. A pair of stout horses work this plow readily, and where the land has been previously subsoiled, can go to a great depth."

Hints to the Manufacturers of Agricultural Implements.—A correspondent of the *Cultivator* says:

"I must beg to give a hint to the manufacturers of implements, as to the very indifferent materials they use for such purposes—which is the old brash, soft, porous ash. Now the proper kind of ash is the best material which can be procured, for such purposes, but on the other hand, the kind designated above is, I think I may safely say, the most worthless of all woods. The time has passed when farmers were unobservant of the difference in the materials in the labor-saving machines which they are now inclined and able to buy to so great an extent. They must now be made well in order to sell well.

"To these same manufacturers, I would also suggest that they would make a much greater aggregate of profit, by offering their articles at a fair price, instead of demanding sums so far disproportionate to the actual cost and a legitimate profit. Farmers are anxious to surround themselves with all these appliances of ease, but not at too extravagant a rate."

Milk Clean.—In some careful experiments made by Dr. Anderson, the quantity of cream obtained from the first drawn cup of milk was in every case much smaller than the last drawn; and those between afforded less or more as they were nearer the beginning or the end. The quantity of cream obtained from the last drawn cup from some cows, exceeded that from the first in the proportion of sixteen to one. In others the proportion was not so great. "Probably," says Dr. Anderson, "on an average of a great many cows, it might be found to run, *as ten or twelve to one.*" The difference in the quality of the cream was also much greater than the difference in quantity. From this it appears, that the person who by bad milking of his cows, loses but half a pint of his milk, loses in fact about as much cream as would be afforded by six or eight pints at the beginning, and loses, besides, that "*part of the cream which alone can give richness and high flavor to his butter.*"

SOUTHDOWN RAM, "YOUNG YORK," IN TWO POSITIONS.

THE SHEEP OF GREAT BRITAIN.

CHAPTER IV.

SOUTH DOWNS

In England, sheep are generally classed into *middle wooled* and *long wooled*. At the head of the middle wools stand unquestionably the South Downs. They are one of the oldest breeds of sheep in Great Britain, and have occupied from time immemorial, the chalky downs of Sussex and other counties of England. Arthur Young, who saw these sheep in 1786, speaks of them as affording fine wool, but being very deficient in carcase, having "a thin chine, low forehand, and rising back-bone." Their zealous advocate, and the breeder to whom they are indebted more than to any other, for the estimation in which they are now justly held, the late John Ellman, says of them: "This breed was formerly of a small size, and far from possessing a good shape, being low and thin in the neck, high on the shoulders, low behind, high on the loins, down on the rump, the tail set on very low, perpendicular from the hip bones, sharp on the back, the ribs flat, not bowing, narrow in the forequarters, but good in the leg, although having big bone."

By judicious selection and care in breeding for many years, great improvement has been made in the form of the carcase, in early maturity, and in the fattening qualities of the breed. Formerly they were seldom fit for the butcher till four years old; now they are usually very fat at from fifteen to eighteen months old, and it is a rare thing to find a flock of wethers even two years old. The following points of a good South Down we condense from Mr. Ellman's discription of this breed:

The head small and hornless. The lips thin, and the space between the nose and the eyes narrow. The under jaw or chop, fine and thin; the ear tolerably wide and well covered with wool. The eye full and bright, and not prominent. The orbits of the eye—the eye-cap or bone—not too projecting, that it may not form a fatal obstacle in lambing.

The neck of a medium length, thin towards the head, but enlarging towards the shoulders, where it should be broad and high, and straight in its whole course above and below.

The breast wide, deep, and projecting forward between the fore legs.

The shoulders should be on a level with the back, and not too wide above.

The ribs coming out horizontally from the spine, and extending far backwards, and the last rib projecting more than the others; the back flat from the shoulders to the setting of the tail; the loin broad and flat; the rump long and broad, and the tail set on high, and nearly on a level with the spine. The hips wide; the space between them and the last rib on either side as narrow as possible, and the ribs generally presenting a circular form, like a barrel. The belly as straight as the back; the legs neither too long nor too short; the fore legs straight from the breast to the foot—not bending inward at the knee—and standing far apart both before and behind; the hocks having a direction rather outward, and the twist, or the meeting of the thighs behind, being particularly full. The bones fine, yet having no appearance of weakness, and of a speckled or dark color.

The belly well defended with wool, and the wool coming down before and behind to the knees and to the hock; the wool short, close curled and fine, and free from spirey projecting fibres.

The true South Down, or "Sussex Down" mutton commands the highest price in the London markets. It was formerly claimed by the advocates of the South Down, (and we are among the number,) that not only was their mutton the most valuable, but that more South Down mutton could be produced from a given amount of food, than that of any other breed. However true this may have been previous to the improvement that has been effected in the Leicester, Cotswold, and other long-wooled breeds, it is certainly not the case at present. The experiments of Mr. Lawes, published in the last *Journal of the Royal Agricultural Society of England*—a brief summary

of which was furnished for the *Genesee Farmer* two years in advance of their publication in England, and which will be found in the August number for 1855 —prove that, for the food consumed, the large, coarse Cotswolds yield more mutton and wool than the Leicesters; the Leicesters more than the Hampshire Downs, and the Hampshire Downs more than the Sussex Downs. The price of their mutton in the London market, however, is exactly in an inverse ratio to the fattening properties of the breed. The Sussex mutton commands the highest price, the Hampshire next, then the Leicester, and lastly the Cotswold, which is sold for at least three cents per pound less than the Sussex mutton. And it is somewhat remarkable that so exactly does the decrease in price counterbalance the greater increase of mutton, that it is impossible to decide which is the most profitable British breed of sheep. Indeed it is certain that no one breed is the most profitable under all circumstances.

There are several varieties of South Down sheep, such as the Sussex, the Hampshire, the Shropshire and the Oxfordshire or Cotswold Downs. The three last are larger and coarser breeds than the former, and we have no doubt they all lay on more fat for the food consumed than the Sussex.

There are a few Hampshire and Shropshire Downs in this country and the Canadas, but none that we have seen that are really good representatives of the breeds. We are somewhat surprised that they have received so little attention. At the late show of the U. S. Agricultural Society at Boston, P. S. Fay, Esq., of Lynn, Mass., showed some Oxford Downs which are quite remarkable for their uniformity and beauty. We have no doubt that they will prove an acquisition to the sheep breeders of this country.

Our engraving is an excellent likeness of a Sussex Down sheep. "Young York" is the property of L. G. Morris, Esq., of Mount Fordham, N. Y., and was obtained from Jonas Webb, the world-renowned English South Down breeder. He was the winner of the 1st prize at the N. Y. State Show in 1854, and in 1855 the 1st prize at the U. S. Ag. Society at Boston, as an aged buck. He cost in England, *six hundred and fifty dollars*. A more perfect animal probably does not exist.

Points of a Good Mule-bearing Mare.—The district round Poitiers in France, has long been celebrated for mules. It appears that twelve millions of francs are annually realized by the export of these animals to Spain, Italy, and the central and southern parts of France. The Poiterin farmers, consider a mare with the following points, especially desirable for mule bearing: A short body, long ribs, wide haunches, wide and low hocks, fleshy thighs, wide hoofs, heels well turned out and hairy; in short, a thick set animal of capacious body, is the right mould for a fine mule. Will some of our experienced mule breeders inform us how this agrees with their observation.

Warts on Horses.—Jas. Fuller, Whiteside's Corners, N. Y., states, in the *Country Gentleman*, that he had a valuable horse with a wart on the inside of the thigh, as large as a man's thumb, three-quarters of an inch long. He applied wafers to it several times. By this means it was removed entirely in a few weeks, without any annoyance to the animal.

Tar, a Remedy for Horse Distemper.—Thomas W. Ladd, of Smithfield, Jefferson Co., Ohio, writes the *Ohio Farmer*, that he has found a remedy and cure for "distemper" in horses. He says: "Having three colts sick with this disease, an experienced farmer told me to use tar, and he thought that the sick colts would soon recover, and that those who had not taken the disease would not have it at all, or but lightly. I followed his directions to my entire satisfaction. I gave the colts, morning and evening, as much as I could readily get into their mouths with a paddle. After a few applications, the sick ones commenced running at the nose, their appetites returned, and in a short time they had entirely regained what they had lost from disease. The others never took it, to my knowledge.

Some prefer mixing fish-oil with the tar; but I used it alone, and I believe it to be entirely sufficient, if the article be good, pure tar. I would have no faith all in the *coal* tar, now in use in some places."

Attend to your Poultry.—The *New England Farmer* says:

"When poultry is properly sheltered and fed, disease will only be the exception to the rule of general health. Want of proper food, irregular feeding, too many occupying a small space, exposure to cold, and more than all these combined, *exposure to wet*, are the prolific sources of disease in the poultry-yard. We believe that exposure to *wet* and *cold* is the *principal cause* of loss of the young of all kinds of domestic fowls, including even ducklings. Nearly the whole dismal catalogue of diseases—the pip or gapes, diarrhœa, indigestion, asthma, fever, consumption, moping, rheumatism, roup and vermin may be traced to this. We have lost 50 chickens in a single storm where wind and rain found their way to broods which we supposed were safe."

Medicine for Ewes.—A correspondent of the *Agricultural Gazette*, recommends in all cases where much "handling" has been required during parturition, where "draining" supervenes, or in cases of abortion, the following dose: 2 ounces of Epsom salts, 2 drachms of ginger, and 2 drachms of laudanum. Unless the unfavorable symptoms disappear in the course of 24 hours, repeat the dose. He is satisfied that "during the two last lambing seasons, it has been —in connection with careful nursing—the means of saving many ewes."

An Excellent Food for Horses may be obtained by sowing a mixture of one bushel of barley, one bushel of oats, and about half a bushel of peas. If the ground is rich an immense crop is obtained. It should be cut when the barley is ripe, which will be a little before the oats. They may be threshed and the grain fed to horses, or what is much better, cut up the straw and grain together with a hay cutting machine. This feed is much relished by horses, and we know of no way in which horses can be wintered so economically.

Sheep Killed by Dogs.—A correspondent of the *Ohio Farmer*, W. Bonar, of Mount Vernon, says: "Within less than a year, sheep to the value of upwards of $200 have been destroyed by dogs within one mile of this place, one hundred dollars' worth of which were my loss, and twenty-five dollars only were recovered from the dog owner."

ATTEND TO THE CHICKENS.—In rearing fowls for the market, the early treatment of chickens is of the highest importance; they should be warmly sheltered and housed, and moreover fed most liberally at very short intervals. If a chick receives a check in its growth at an early age, it never afterwards attains a large size, as the boney frame becomes set, and a stunted growth is the inevitable result.

With good and abundant feeding, and the advantage of a free run, in favorable weather, Dorkings will become fit for the purpose of fattening at the age of three to four months in summer, and four to five or six in winter. In order to be in the highest perfection, fowls must be killed before they have arrived at their full development; the male birds should be taken when the sickle feathers of the tail begin to show, or as the country women say, "when their tails begin to turn;" and the females, whilst still pullets, viz.—before they have laid.

HOW TO MOVE A SULLEN OX.—"Did you never observe," said a plain man, a friend of ours, a few days since, as we were driving a dog out of the cow pen, to prevent his taking refuge behind us—as the cows took him by turns to chase him over the lot—"did you never observe that a cow never will make friends with a dog?" "Often." "Well, the best way you ever tried to make steers rise when they get sullen, and lie down, is just to bring a dog and drop him down on them. It will make them jump up when nothing else in the world will." We seized the hint at once for the benefit of our friends who own such pests as obstinate oxen, and give it to them now. We believe there is no antipathy so universal and so inveterate as that of cattle against dogs, and it strikes us that when all other means fail, that will answer.—*Southern Planter.*

SCRATCHING POSTS, LUXURIES FOR CATTLE.—SIDNEY SMITH used to say: "I am for all cheap luxuries, even for animals; now all animals have a passion for scratching their backbones; they break down gates and palings to effect this. Look! there is my universal scratcher, a sharp-edged pole, resting on a high and low post, adapted to every height, from a horse to a lamb. Even the Edinburgh Reviewer can take his turn; you have no idea how popular it is. I have not had a gate broken since I put it up. I have it in all my fields."

A GREAT LAYER.—The *Banffshire Journal* says: "A duck under the ordinary size, belonging to Mr. HAY, Mill of Laggan, in this district, has this season deposited an egg every day for 143 days in succession. The useful little animal was hatched from the egg of a wild duck, and laid an enormous number of eggs last year. Might it not add to the profits of the poultry yard, if similar experiments in breeding were oftener tried?"

FIVE CALVES IN ONE YEAR.—A correspondent of the *Country Gentleman* says: "Mr. WM. BROON, a milkman near Sandusky City, has a cow in his herd, that brought five calves within twelve months, viz., two in the spring of 1854, and three in the spring of 1855, but all inside of one year." Who can beat this?

IF you allow your animals to shiver, your fortune will be shivered in consequence; that is, the farmer who leaves his cattle to the wind, will find his profits also given to the winds.

UNDERDRAINING AND IRRIGATION IN THE STATE OF NEW YORK.—The Annual Report of the Secretary of the N. Y. State Ag. Society, alludes to the progress of underdraining and irrigation in this State as follows:

"The increasing attention to *drainage*—and deep cultivation where needed—is among the most cheering indications of what is now doing for the advancement of agriculture. The great reduction of expense in cultivation where drainage has been resorted to, as well as the increased crops, have called the attention of farmers to the subject, and we are gratified in being assured from the various County Reports, as well as from the examination we have made, that the subject is now eliciting the careful attention of the agricultural interest. And while very much remains to be done, it is most encouraging that the recommendations of the Society are being so extensively carried out in practice. *Irrigation*, also, which has but lately been brought to the attention of the farmers, is now attracting notice, and several experiments, which have proved highly successful, will be found among the papers presented for publication—and the question as to the water best suited for irrigation, which is undergoing discussion and examination, is one of very great importance."

CARBONACEOUS MANURES FOR HOPS AND WHEAT.—The London *Farmer's Magazine* gives an account of some experiments made by Mr. PAINE, of Surrey, to ascertain the best manures for hops, from which we extract the following:

"The manures tried were of mineral and organic substances, alone as well as mixed, and each plot consisted of one-eighth of an acre. This land offered great variety of soil, resting on the upper and lower chalk, the freestone, and the gault. The result of his trials was that rape-cake, singly and in combination, for four years in succession proved invariably the best carbonaceous manure for his crop and land. He had found hops, turnips, cabbages, mangels, and generally all large-leaved and rapidly-developed crops, benefited by fish, whale-blubber, oil, and fatty matters; but that, on the contrary, his corn crops, [wheat, barley, oats, &c.,] derived no benefit whatever from carbonaceous manures."

This, our readers will perceive, is in accordance with the Rothamstead experiments. Carbonaceous manures, in conjunction with soluble phosphates, were there found of value for turnips, but of no value for wheat.

CARROTS are worth full half as much as corn in the ear to feed either horses or cattle. Our neighbors sometimes offer us *oats* in exchange for carrots, bushel for bushel, and *we* can raise two bushels of carrots cheaper than one of oats. We have fed our horses more carrots than grain every winter and spring for years, and *never have one sick.*—*Prairie Farmer.*

ASHES ON POTATOES.—A correspondent of the *Boston Cultivator*, has experimented with ashes on potatoes for three years. The ashes diminished rather than increased the yield, and the potatoes where ashes were used were blistered, each year, so as to be unsaleable.

IF you wish to give an energetic movement to all your farm machinery, and keep its hundred wheels in rotation, be sure not to be without a good rotation of crops.

Horticultural Department.

THE FARMERS' GARDEN.

PEAS.—One of the first crops to be attended to as soon as the weather opens, is peas. They should be sown on a warm, dry border, as soon as the frost is out of the ground. To get them early, it is indispensable to pole them, and consequently the first peas should be sown in single or double rows, three or four feet apart. One quart of the *Prince Albert* will be enough early peas for most families. It is a dwarf grower, and will not require poles more than 2½ or 3 feet high. The later kinds can be grown without poles, in rows 18 inches to 2 feet apart. As the peas grow, hoe the soil up on the southern side of the rows. This will make them fall all one way, and the peas can be gathered without much difficulty. With little trouble, every farmer may have an abundant supply of green peas all through the summer months; and certainly there is no vegetable that is so universally agreeable; they are also healthy and nutritious.

CELERY.—If not already sown in a hot bed, celery should be immediately sown in one of the warmest spots in the garden. The principal reason why it is so difficult to obtain good celery, lies in the fact that the plant is an exceedingly slow grower when young. On this account pains should be taken to force it as much as possible during its early stages. But there is danger of making the plants too wiry. To prevent this, the plants should be transplanted at least once before being set out into the trenches. The *White Solid*, if it can be obtained genuine, is one of the best varieties known.

LETTUCE.—If you have lettuce plants in the hot bed, they may be transplanted into rows a foot apart as soon as the weather becomes warm, and the ground dry. If not, seed should be sown in a warm border as early as possible. They may either be sown broad cast, quite thick, and afterwards transplanted into rows, or, if this is thought to be too much trouble, they may be sown in rows sufficiently wide apart to admit the easy use of the hoe. It is well to use plenty of seed, as the plants can be thinned out and supply small lettuce early. Lettuce delight in rich, dry mould. They transplant with difficulty, and it is therefore generally advisable to sow them in the rows where they are intended to remain. Frequent hoeing is very advantageous. Except turnips, we know of nothing on which a good superphosphate of lime has such a marked effect as on lettuce. It stimulates their growth in a most surprising manner, besides improving the quality of the lettuce. It may be sown with the seed, as it does not injure its germinating principle. On some soils plaster may be beneficial, but we cannot speak from experience on this point.

RADISHES.—For radishes, the soil should be light and deep, but not too rich. They require very little care in their cultivation. They may be sown among onions, carrots, beets, &c. They should be thinned out, if too thick, to at least an inch apart. When young and crisp, and of a good kind—such as the *Winter Rose, Early Oval*, and *Long Scarlet*—the radish is a universal favorite. But when old, pithy and scabby, it is hardly fit for the hogs. Coal ashes are said to be an excellent dressing for radishes.

CABBAGE.—The several varieties of the cabbage tribe should be sown as early as possible, in a light soil, in a warm part of the garden. They may be sown pretty thick, and when about two inches high, should be transplanted. Nothing improves cabbage plants so much as transplanting; giving them a stocky, hardy growth. Superphosphate of lime sown with the seed—say from one to two ounces on a square yard will be found very beneficial to cabbage, especially during the early stages of their growth.

The same remarks will apply to brocoli, cauliflower, &c. These delicious vegetables are worthy of much more attention than they receive. It has been supposed that this climate is not well adapted for these plants. We admit that *good* cauliflowers, brocoli, &c., are rarely ever found in an American garden; but the difficulty lies not so much in the climate, as in the careless method of cultivation. Did we take as much pains as the London gardeners, we could grow cauliflowers nearly or quite equal to those which every American so much admires, the first time he enters Convent Garden Market. Last year, we saw at several of our exhibitions, heads of cauliflower, which would compare favorably with the best we have ever seen in England. We repeat, with good kinds—such as the *Early Paris, Large Lenormand*, and *Walcharen*—and with care and judicious cultivation, every farmer may have his table abundantly supplied with this daintiest of esculents.

CARROTS.—Few farmers know what a good carrot is, and hence this vegetable does not hold that rank in an American garden which its intrinsic merits deserve. In France and England, small early carrots are considered a delicacy. We opine that if a few seeds of the *Early Short Horn* were sown in a warm, light, well prepared soil as early in the spring as the ground could be got into good condition, and the plants were pulled when not more than half an inch in diameter, carrots would go up an hundred per cent. in the estimation of those who had the good fortune to partake of them.

Carrots should be sown in rows wide enough to admit the use of a small hoe. It is not well to be too sparing of seed, for if the plants are thick we can early see where the rows are, and be able to use the hoe before the weeds get so thick that it is difficult to see the carrots. The plants, however, must be thinned out to at least an inch apart in the rows for the early crop, and for the main crop three or four inches. No error is more common, and none more injurious, than leaving plants too thick in the garden.

TOMATOES.—It is an object with all good gardeners to get tomatoes early. For this purpose the seed should be grown in a hot-bed, as stated in our March number. But where hot-beds are not used, the best method of getting early and hardy tomato plants is

to let the ground where the plants grew last season remain untouched. The self-sown seed which has been in the soil all winter, will germinate earlier, and the plants, it is said, will be hardier than when sown in any way in the open ground. The plants may be transplanted when they have pushed three or four leaves, being careful to disturb the soil and the roots as little as possible. They should be planted from three to four feet apart. A warm, dry, rather gravelly soil—not too rich—produces the earliest tomatoes. One of the best varieties is the large, smooth red. The yellow is a milder variety, and would be grown for its beauty, even had it no other recommendation. The pear and cherry-shaped are fancy varieties.

PARSLEY.—This is a biennial. The seed is very slow in germinating. It should be sown as early as possible, either in a bed by itself in drills twelve or fifteen inches apart, or as a border around the beds or walks. The plants must be thinned out in the rows three or four inches apart. The curled variety is the one most generally admired.

POTATOES.—A few rows of an early variety should be planted in a warm part of the garden as soon as possible. If the potatoes are kept in a warm room a week or two before they are planted, the eyes will start, and in this way potatoes are often obtained a week or ten days earlier than when planted in the ordinary way.

BEANS.—Lima beans must not be planted too early, for they are apt to be destroyed by the cold, wet weather; but the *Broad* or *Windsor Bean*—which is still a favorite with many of our English readers—cannot be planted too early; if not planted till late, it certainly will not succeed in this climate. They should be planted in a cool and somewhat shady part of the garden. We must defer our hints on the cultivation of beans till the next number.

ONIONS.—When onions are sown broadcast the labor of weeding them is very great. When a boy, we have spent many a weary hour in doing that, which, had the onions been sown in rows, so that they could be hoed, might have been accomplished in half the time, and in a better manner. Certainly nothing is more foolish than to sow onions broadcast. Indeed we may say the same of almost every garden plant. The early and constant use of the hoe saves an immense amount of labor in weeding, and benefits the plants by stirring the soil and thus keeping it moist.

HORTICULTURE IN WESTERN NEW YORK.

IN the *Proceedings of the Fruit Growers' Society of Western New York*, recently published, we find, in the reports of the County Committees, some exceedingly interesting and useful information, a portion of which we condense:

CULTIVATION OF PEARS.—In Ontario county, several pear orchards have been planted of late, some of which contain as many as seven hundred trees. The *Virgalieu* is the favorite. There are probably ten thousand trees of this variety in the county. The pear is a certain crop every year. It is the opinion of the committee that a pear orchard at present prices will average $300 per acre per annum. Instances of immense profits from pear trees are given.

In Yates county, "the few pear trees that are planted grow well, and indicate that it will be a profitable crop."

L. F. ALLEN, of Erie county, states that last year the late pears in that vicinity ripened full three weeks earlier than usual. He thinks that, having tested those varieties that possess the best flavor, and which prove the best growers and bearers, we should confine our efforts to not exceeding ten or twelve of them for the family and for market. As a market pear, the *Bartlett* stands first. "The *Virgalieu will* spot and crack even in the best *fresh* soils."

APPLES.—In Ontario county, apple orchards, with good culture and good varieties, will nett, on the average, fifty dollars per acre. Orchards are mostly in pastures or meadows; trees old, and decaying rapidly. Quality of fruit continually growing poorer. There are a few splendid orchards, which are remarkably productive. They are thoroughly pruned, ground well tilled and manured, and pastured the latter part of summer and through the fall, with hogs, to eat the fallen wormy apples. The greater proportion of grafted fruit is *Rhode Island Greenings* and *Roxbury Russets*. Several instances are given where large profits have been obtained from apple orchards. S. HENDEE, of West Bloomfield, sold, beside what he put up for his own use, $125 worth of apples from one acre, in the fall of 1854. His average is $75 per year. He manures with long manure, and grows crops of grain and grass among his trees. S. D. MILLINGTON, in the same town, sold his crop of apples in the fall of 1854, from three acres, for $330. Nine *Northern Spy* trees, eight years from grafts, produced 45 barrels of superb apples. His crop last year (1855) amounted to 700 barrels, worth $524. His *Northern Spy* trees bear every year. He mulches his trees with straw and straw manure; grows no crop among his trees; prunes thoroughly, and gives his *Northern Spy* trees an open head.

In the report from Genesee county, it is stated that Mr. NORTON, of Bergen, receives annually, from a two acre orchard of *Northern Spys* and *R. I. Greenings*, from $150 to $200, beside saving enough apples for family use. The trees are so far apart that the land produces a good crop of grain every season. The trees are well pruned.

In Schuyler county, near the village of Havana, apple orchards are now bearing that were planted by the Indians, the trees of which had attained a large size when the country was settled by the whites.

PLUMS.—The curculio and the black-knot are serious drawbacks to the cultivation of this delicious fruit.

The report from Ontario county says: "Plum trees are nearly all gone by the board. The black-knot has destroyed them."

In Tompkins county, "of late years, owing to the general prevalence of the black-knot on the plum trees, the quantity raised has been very much diminished."

In Erie county, "the black-knot on the plum is becoming very prevalent. Until eight or ten years since it was unknown, and then it was of rare occurrence. It has been steadily increasing in spite of the usual remedy—cutting and burning."

In Genesee county, "the black-knot on plum trees prevails to such an extent that it is difficult to find a healthy tree of many years' growth; and where but a few years since were plenty of trees of this fruit in a healthy bearing state, scarcely a tree remains."

In Oswego county, the black-knot has nearly disappeared, and in the report from Wayne county, J.

J. THOMAS says: "Black knot on plums may be kept off by constant cutting; washing large wounds in chloride of lime of strong solution."

In Schuyler county, "dried plums form quite an inportant item of the products of the country. We know a single merchant who has paid over $2,000 for dried plums in a single year."

PEACHES.—The cold winter of 1854 and '55 destroyed all the peach buds about Western New York, and many of the old neglected trees. The cherry trees were also more or less injured.

IMPORTANCE OF SHELTER.—The report from Monroe county says: "We have often noticed the beneficial effects of shelter in the peach orchards, which being pretty large and thickly planted, have the effect of sheltering each other. The trees in peach orchards uniformly produce more fruit in proportion to the number of trees, than small lots of detached trees, and for no other reason that we can see, but because of that protection they receive from each other." They urge farmers to spare as much of the original forest as will serve the purpose of shelter, and especially "those straggling belts of chestnuts, oaks and hickorys, which mingled with pine and cedar, have sprung up spontaneously along the summits of the ravines, and upon the sandy hill-sides of our lake towns."

It is to be regretted that so many of the County Committees have neglected to send in reports. Western New York is confessedly one of the best, if not the best, fruit-growing section in the Union, and could full and detailed reports be obtained from each county, we should be in possession of a mass of useful and practical information, that could be attained in no other way. Mr. BARRY, the chairman of the general fruit committee, is entitled to much praise for the manner in which he has drawn up the circular requesting informrtion from the various County Committees. The idea is a good one, and nothing is needed but the general co-operation of the County Committees, to render it productive of highly beneficial results.

CULTIVATION OF THE CRANBERRY.

A SHORT time since, the *New York Tribune* contained a series of articles on Cranberry Culture, which attracted some attention. These articles have been thrown into book form, and, together with some additional particulars, have been published in a neat little volume by C. M. SAXTON & Co., of New York.

The author, the Rev. B. EASTWOOD, inclines to the opinion that uplands are not well adapted for the cranberry. It is not a native of the upland, and will never do well in such situations if the plants can not obtain an abundant supply of moisture. One of the oldest cultivators on Cape Cod says: "If you plant on the upland, it is difficult to raise your vines to bearing perfection, and it will entail much labor and expense on him who undertakes it." Soil containing stagnant water is also to be avoided. The location most conducive to the full development of the berry, is a low, moist swamp, facing the south, and sheltered from the cold, raw winds. As a general rule, it is best to have the water within twelve inches of the surface. A gradual slope, coming down to the edge of a pond, when properly prepared and planted, makes the best of "yards." Dead levels by the side of ponds should be guarded against. Rich alluvial soils cause the plants to abound with healthy foliage and vast quantities of runners, but they produce no fruit. Manuring is wholly out of the question. Clay or marl are totally unfit for cranberry cultivation, and all heavy, rocky loams, should be avoided. Dead sand, water, and air, are the elements upon which the cranberry feeds the best, and attains its highest degree of perfection. That soil and location which has these advantages, is best adapted to the growth of the berry.

The Cape Cod cranberry cultivators prefer beach sand to any other soil. It is light and porous, admitting the atmosphere freely to the roots of the vine, and is found to be the only soil in which the rank weeds can be effectually kept down.

Peat is next in value and importance to the beach sand for the growth of cranberries; but it must be carefully prepared. The top turf should be taken off. It should then be left exposed to the frost and weather for one year. When the frost is thawed out of it, it will crumble and be powdery, and will never cake afterward, as would be the case if planted without exposure to the frost immediately after taking off the top turf.

In planting, the first object is to procure healthy vines. Such vines present an appearance of greenish-brown on the leaf; the spears and runners are fine and thin, remarkable for their wiry nature and aspect. They seem of stunted growth, but form beautiful and tufted groups of spears in their powers of matting. Unhealthy vines appear altogether brighter and stronger.

Cranberries may be planted either in the fall or spring. Where the land is not flooded, spring planting is best. May and the early part of June are believed, on Cape Cod, to be the most favorable months for spring planting. The author thinks the following method one of the best known:

"On obtaining the sod, and before planting, you take the sod on which the vine is growing, examine it closely, then place your fingers beneath or among the roots and tear them out as carefully as you can. When this is done, separate the vine into as many as you can conveniently, but be careful to leave two or three small spears or runners on the roots. When you plant, place the roots in the soil first, then spread out the spears or runners, and bury them in the soil, but being careful to leave out of the earth the ends or tips of those spears or runners.

"The reason for this method is, that from those parts of the spears or runners which are buried in the soil will start new roots, and each root will be a new vine, and instead of only having one root from which the vine may start, you have two, or a half dozen, according to the number of spears on the vine you plant. This is a favorite method among the most successful growers of the cranberry. A patch planted on this system mats rapidly, and has rarely been known to fail."

The plants may be propagated from seeds, but it is slow work.

When the vines have been planted, their development depends upon the treatment they receive from the cultivator. If they are neglected, they will have to contend against grass and weeds, and their thrifty growth will be impossible. The weeds must be destroyed by walking over the patch and pulling them up, or by the use of the hoe. After the second or third year, the vines will take care of themselves, and will eat out weeds and grass, and thus leave but little to be done by the grower.

The *Cape Cod Bell* cranberry, and the *Cape Cod Cherry*, are among the best varieties.

THE BIGARREAU TARDIF D'ARGENTAL CHERRY.
(Late Bigarreau of Argental.)

This is a French cherry, not of so much importance as to be recommended for small collections or for general cultivation, but rather as a distinct and somewhat curious variety for the experimenter and pomologist. It is described in *The Fruit Garden*, No. 33. Fruit—large, long, dark shining red, nearly black when fully ripe. Flesh—tender for a cherry of this class, very juicy, and possessing a peculiar flavor approaching that of the raspberry. The tree is an upright, vigorous grower, thinly branched, with long, narrow, wavy leaves. During the first three or four years of bearing, the crop was light, and I had set it down as rather unproductive; but for the last two years it has borne heavy crops; and as its season of maturity is rather later than most other *sweet* cherries (latter end of July), it fills up a space very well. It comes in with the old *Late Bleeding Heart*, which it resembles, but is, I think, superior every way. It has not been much propagated, and I am not sure whether it can be had in any of the nurseries. B.

RAISING FRUIT FOR MARKET.

In your March number I observe a communication on this subject, signed F. W. L., which commences with the remark that "there seems to be a perfect mania created for fruit-raising." The writer goes on to speak of the millions of trees annually propagated by nurserymen,—of horticultural societies urging farmers to abandon grain-growing, and turn their attention almost exclusively to fruit,—of "Morus multicaulis," "Tree Corn," "Shanghai Fowls," &c. Now, sir, with due respect to your correspondent, I must say that his remarks are calculated to create a false impression. I claim to be tolerably well informed respecting the condition of fruit-culture in all parts of the United States, and I certainly am not aware of any locality in which there is a spirit of planting approaching a *mania*. Is it so in Western New York, where fruit has received as much attention perhaps as in any other section? Carefully prepared reports from nearly every county represent fruit-culture as in a very backward condition; the apple only being grown to any considerable extent, and that in a very imperfect manner. The census returns show pears, cherries, and plums, in only four or five towns of the county of Monroe. The town of Greece, in which your correspondent resides, is the greatest fruit-growing town in the county, and reports only 642 bushels of pears, 124 of cherries, and 15 of plums. In the very heart of the most noted fruit-growing region of the United States, we may find nine-tenths of the agricultural population almost destitute of fine pears, cherries, plums, apricots, &c.; and a very large number do not possess even a fair supply of the best apples.

The millions of trees that are propagated, are scattered in handfuls over our immense domain, comprising thirty-six States and Territories, in which the number of acres of improved land is set down at nearly 120,000,000, and the population at about 20,000,000. The quantity of fruit trees grown and planted in the United States, compared to this population and territory, indicates anything but a *mania* on the subject of planting.

May I ask F. W. L. to look into these matters more carefully?

Then, as for societies or individuals having recommended farmers *anywhere* to abandon grain-growing, and turn their *whole* attention to fruits, F. W. L. is mistaken, as he will find by reference to what has been said on this subject. All that has been done, in this respect, was intended to call attention to the peculiar advantages which the land-owners of certain parts of Western New York possessed for cultivating fruit for market; and that under the present circumstances, resulting from the settlement and progress of the West, and the extension of railroads, they might advantageously appropriate *more* of their lands, and bestow *more* of their skill and capital, to fruit-culture than they do at present. This is all. B.

During mild weather in winter, hardy fruit trees may be pruned, as well as grapes.

WEGEILIA ROSEA.

WEGEILIA ROSEA was introduced into England by the London Horticultural Society, from China, thro' their very successful collector, Mr. FORTUNE, about the year 1854 or 5. When it was first introduced we used to consider it difficult to make it flower; the plants would grow luxuriously, but owing to the warm, moist atmosphere frequent in the fall of the year in England, it did not ripen its wood thoroughly, its flower buds were not elaborated, and they and its wood remained soft all winter. Consequently, in the spring its flowers were few, and its leaves abundant.

WEGEILIA ROSEA.

In order to make it flower freely, we would take up from the ground in the fall, strong one year old plants, and pot them in ten inch pots, in a rich loamy soil. When winter set in, they were placed in the coldest part of the greenhouse, beneath the stage, there to remain until they began to grow, when they were brought forward to the warmest part of the greenhouse, and to the light, and grown freely until midsummer, at which time they were turned out doors and placed in the most sunny and exposed situation, and water given just sufficient to keep them from flagging. By this means we gave them a long autumn of partial rest, and when it was time to house them in winter, we found that the wood was all well ripened, and firm up to the terminal bud. Early in December they were introduced to the coldest part of the forcing house, and brought to the warmest by degrees. Early in the month of March we were amply rewarded with the utmost profusion of the most delicate light rose colored, trumpet shaped flowers, and in warm sunny days, of the most delicious fragrance. At least, that was my experience down to 1850, near London. But its difficulty of flowering might have been in part owing to its recent introduction, and in consequence of the plants being young.

How different in this country! It seems admirably adapted to the climate of Western New York. Our clear autumn weather brings its wood to perfect maturity, and enables it to stand our severest winters without injury. It is as hardy as a currant bush, and wherever a currant bush will grow, Wegeilia rosea will thrive; but of course the better it is cared for, the better will be the reward. It has stood the last two or three winters here, without any protection, with impunity; and I have once seen the mercury 22° below zero.

Wegeilia rosea deserves a place in every garden, in every lawn, in every shrubbery, and when in flower in the winter, a very conspicuous place in every greenhouse and conservatory. Its flowers are delicate enough for the composition of the choicest hand boquet. It is one of the very best forcing shrubs we have. I forced a large plant last winter, and it flowered profusely. After it had done flowering it was divided into three, and planted in the garden. I have a part of the same plant being forced again, and it is just coming into flower. We have a large plant five or six years old growing clearly by itself on the lawn, in which position it flowers best and looks best. Every summer some of its branches are literally bowed to the ground with the weight of its profusion of flowers. Cuttings of the present season's growth, taken at midsummer and potted in equal parts of leaf mould and lake sand, with good drainage, and placed in a cold frame, and properly watered and shaded, root freely.

Cuttings taken from plants that are being forced, and managed in the same way as recommended for the summer cuttings, but placed on a gentle bottom heat, root more readily; they are not so succulent as in summer, and therefore are not so liable to rot. It also roots freely by layers. J. SALTER—*Rochester, N. Y.*

TRANSPLANTING LARGE TREES.—Trees of much size may be safely transplanted by adopting the following practice. One, two, or three years before removing, dig a trench all around the tree, so as to cut off all the roots at a proper distance from it—this will cause numerous shorter ones to spring from the larger roots, and when the tree is removed, a much fuller mass of fibres within the dug circle will be obtained and but little check given to the tree in consequence. The safety will be increased if this mass of fibres is removed with a ball of earth. If the trench has been dug or renewed and the hole dug for the tree, the previous autumn, the ball of earth and tree may be carried on a sled in winter in a frozen state. It should be remembered to make the hole considerably larger, say one foot all round, than the ball, and fill this space with rich soil. Remember also to mulch the trees before midsummer.—*Country Gentleman.*

Ladies' Department.

THE WIFE'S INFLUENCE.

"I DO wish, HARRY, that I could have a garden this summer, like the TOWNSEND'S! How nice it would be to raise all the currants and strawberries that we should want. Just think of those beautiful large strawberries that we saw at the exhibition last summer; would they not be delicious with sugar and cream, for tea, when you come in so tired, in the hot weather in June?"

To this query of his young wife, as the were seated together at the window, one evening early in the spring, just after the snow had disappeared, and vegetation was beginning to unfold the evidences of its vitality after having endured the storms and rigors of an almost arctic winter, HARRY MANLEY assented, but urged as a plea for not commencing the execution of the proposed task, that as he had a new farm, and his means were limited, that it would not be advisable to devote his time to the cultivation of such articles as were not really necessary, or that would not procuce some return in cash, and that the idea of revelling in strawberries and cream was altogether too poetical for a poor, young farmer to indulge in.

The wife, however, continued to paint the picture she had already drawn, in more glowing colors. The currants, she said, would last for six weeks during the hottest weather, and after they were once planted, they would require but little care. Vegetables also could be grown, which would more than repay all the labor bestowed upon them; lettuce and radishes in a few weeks would be ready for use, and then would follow cucumbers and tomatoes, that would last till destroyed by the frost in the fall; and if there could be some rhubarb planted this spring, another year they could have such excellent pies. A few flowers, too, could be planted along the edges of the walks, which would furnish boquets for the table.

In this way she continued, until she fancied that her happiness would be complete if her desires in this respect were gratified.

HARRY, however, although an excellent farmer, had never acquired a taste for gardening, and still continued to think his wife's ideas altogether impracticable at the present time. It is true he had some obscure notions of sometime having a garden—when he had more time, and when the duties of his farm did not call so loudly for their immediate discharge; in fact, as he used to say, "when he got time." He had even gone so far the year before, as to fence in about half an acre of ground on one side of his house, and cultivated it in carrots for his stock.

This spot the wife's fancy, in her dreams that night, invested with all the beauty and loveliness of Eden. Graceful trees, with their boughs pendant to earth, with their golden burdens swept by the gentle breezes, murmured harmonious strains; flowers of surpassing loveliness, of every pleasing form and hue, filled the atmosphere with delicate perfume; brilliant plumed birds flitting from tree to tree, made the air resound with enrapturing music. The eye, the ear, the taste, the smell, every sense was gratified.

But alas, this was a dream. The shrill notes of the cock, just as the daylight appeared in the east, awoke the dreamer from her slumber, and brought back the mind from its beautiful wanderings. She arose, and casting her eyes through the window they fell upon that garden spot; but how unlike the vision of her sleep! nothing there but the black bare earth. She looked at it steadily for a few moments, and then turned away with a new resolution.

That morning she said no more to her husband on the subject of the last evening's conversation, and to his mind it did not again recur, as it was entirely devoid of interest to him.

After HARRY had gone out upon his farm that morning, his wife repaired directly to neighbor TOWNSEND'S, about a mile distant, whom she saw long before reaching the house, busy at his hot-bed. As she entered the gate to go to the house, she found Mistress TOWNSEND with her daughter loosening the earth in a bed of crocuses and hyacinths, which were just beginning to put forth their blossoms. She was greeted with a hearty welcome, and taken from plant to plant and their names were repeated, and a great many things told about them, which was all like so much Greek to our devoted novice.

But many things she did learn, and when she was ready to leave, she had been in every nook and corner of the garden and had told the TOWNSENDS all that she wanted to do, and received a hundred promises of all the assistance they could render, together with quite a collection of seeds, and some cuttings of white and of red Currants. After many expressions of heartfelt thankfulness to her kind friends, she started with her precious gifts, to commence operations in a new sphere.

Arriving at home, she repaired to the little enclosure, and with the help of the servant girl, planted the currant cuttings in a long row on one side of the garden, about three feet from the fence, first cutting out the buds from that part which was inserted in the ground, as Mr. TOWNSEND told her, to prevent suckers from coming up. The servant girl appeared quite astonished at the procedure of her mistress, and did not fail to declare her lack of confidence of seeing live bushes come from such little sticks. This operation finished, the next was to prepare a bed for sowing some Lettuce seed, which by the united exertions of both, after an hour's toiling, was finally accomplished, and the seed scattered on the surface and raked over; true it was not done in a very artistic manner, and a scientific gardener would no doubt have smiled at the attempt; but in the eyes of our heroine, it was a proud achievement, and after she had started to go to the house, she turned once more, and with eyes sparkling with delight, reviewed her morning's work.

With joyous anxiety she waited for HARRY to come at noon, and when at last she saw him approaching down the lane, she ran to meet him, and conducted him immediately to the scene of her labors. HARRY looked at the garden with much pleasure, but was highly surprised at his wife's enthusiasm.

As she now told him all her plans, he began to be interested, and every morning and evening worked with a hearty will in the little garden, and soon gave it such an appearance as he had previously thought would require years to accomplish.

By the assistance of the TOWNSENDS they set out a large Strawberry bed, and a plat of Raspberries, and a dozen roots of Rhubarb, and sowed beds of many kinds of vegetables, and laid out walks, and decided upon many improvements for another year, when they

would plant some trees of the choicest fruit, and some fine flowering shrubs along the borders.

From this time HARRY and his wife continued to take great pleasure in gardening, and now HARRY is one of the most scientific horticulturists in all the country about, and although a dozen years have not elapsed since he commenced, he has orchards that yield him an annual profit of eight hundred dollars.

Could you see the house, covered with climbing roses, clematis and honeysuckles, and the broad, smooth, lawn, interspersed with beds of the loveliest flowers, and shrubs and trees of exquisite beauty, you would discover that HARRY's wife had acquired great skill in the practice of her cherished pursuit.

TAKE CARE OF YOUR EYES.—Never use a writing desk or table with your face toward a window. In such cases, the rays of light coming directly upon the pupil of the eyes, and causing an unnatural and forced contraction thereof, soon permanently injure the sight. When your table or desk is near a window, sit so that your face turns from, not towards the window while you are writing. If your face is towards the window, the oblique rays strike the eye and injure it nearly as much as the direct rays when you sit in front of the window. It is best always to sit or stand, while reading or writing, with the window behind you; and next to that, with the light coming over the left side—then the light illumines the paper or book, and does not shine abruptly upon the eye-ball. The same remarks are applicable to artificial light.

A GREENLAND LADY'S DRESS.—This consists of seal-skin stockings with the fur next to the foot, and of such length as to reach above the knee. Over these is drawn a pair of seal-skin boots, with the fur outside, so that the boots are in truth a seal-skin of double thickness, with the fur outside and inside too. The pantaloons are of seal-skin, something in the form of old-fashioned knee-breeches. A jacket of seal-skin, fur inside, fits close to the body. The outer habiliment is a loose jurrah of calico. Around the neck is a ruff of dog's fur, but underneath this is a white or black handkerchief tied snug to the neck. The dress when ornamented, is quite a handsome one, as it is the best of the Bloomer style.

WHY BUTTER IS DEAR.—Is the following, from the *New York Tribune*, true or fabulous?

"There was a fine pasture all over the country last year, and the price of butter ought to be down to a shilling a pound. Why isn't it? Because the women and girls don't know how to make it. For twenty years past, the girls' butter-making education has been sadly neglected. They can play the piano, but cannot churn; can dance, but cannot skim milk; can talk a little French, but don't know how to work out the buttermilk. The women who made the butter in Westchester, Dutchess and Orange counties twenty years ago, are passing away, and there are none to take their places. That's why butter is high."

BAKING BEETS.—A lady writer in the *American Agriculturist*, says of baking beets:

"Being washed, with as little of the skin cut as possible, we bake them till done, when the outer skin is removed, and the beets served up according to taste. The sweet juices which inevitably escape while boiling, are retained and concentrated, and one who has never eaten them would be surprised at their superior flavor."

HINTS FOR HOUSEWIVES.

TO MAKE POTATO YEAST.—Pare, and boil very tender, fifteen medium sized potatoes, mash fine while hot, add one large spoonful of flour, and two spoonfuls of sugar, stir them in, and pour on boiling water (it must be boiling,) to make it a thin batter. When luke-warm, stir in one teacup of common yeast, and set it in a warm place to stand over night. This yeast will keep good two weeks in cold weather, but in summer should be made fresh for use. This quantity is sufficient to make eight large loaves, and is preferable for biscuit, muffins, rusk, etc., to any other kind. In using, it should be strained through a colander, by pouring the milk upon it, to free it from any lumps of potato which remain unmashed. Much is said and written of the injurious effects of saleratus in cooking, and we can assure those who will try it, that their bread or cakes made in this way, will be better without it than with it. Bread made with this yeast retains its freshness and is tender and good much longer than with common yeast.

A GOOD JELLY CAKE.—Take three eggs and beat them thoroughly; add one cup of sugar and one cup of flour. Stir these well together, and add one teaspoonful of cream of tartar, and half a teaspoonful of soda—the latter to be dissolved in a very little water. Bake in two pie tins as evenly and quickly as possible, taking much care that it does not bake too hard around the edges. A sheet of writing paper laid over the top will often prevent it from burning or browning too much. Have ready a clean towel or cloth, and when the cake is done, slip it out bottom side up on the cloth; then spread the uppermost side quite thickly with currant or other tart jelly, and commencing at the end, roll it up, when it will be a round, compact roll. When used, slices are cut from the end. Jelly cake made in this way will keep moist and good for weeks and months.

TO MAKE SHARP MUSTARD.—It is a curious fact that mustard seed *whole* does not contain any *volatile oil*. This is only developed (and very gradually) if the powdered seed is moistened with cold or luke-warm water. The peculiar constituent of mustard, *myronic acid*, is changed under the influence of the albuminous matter of the moistened mustard powder, into the volatile oil of mustard. Hence, if pungent mustard is desired, it should always be moistened with water sometime before it is used. Hot water, since it coagulates the fermenting albuminous matter, should not be used.

"MINUTE PUDDING," may be made in a period of sufficient brevity to fully justify its name, as follows: If you have some stale bread on hand, put a pint of sweet milk in a frying pan, cut the bread up in it, put in a tablespoonful of allspice, a little nutmeg will help it, let it boil, as soon as it is soft, stir in an egg, and it is done.

TO REMOVE GREASE SPOTS.—Put on powder of French chalk, and place a piece of blotting paper over it; then pass a hot iron over the blotting paper. The heat liquifies the grease, the chalk absorbs it, and the excess of grease is absorbed by the blotting paper.

HAIR OIL.—The best hair oil is made by mixing high-proofed alcohol and cold-pressed castor oil. These ingredients are the base of all the celebrated hair tonics.

Youth's Department.

GARDENING FOR YOUTH.

ANNUALS CONTINUED.

NEMOPHILA INSIGNIS AND N. MACULATA.—These are also natives of California, and the rearing of them cannot be too highly recommended. They are both beautiful dwarf plants; the former produces lovely little flowers of a blue color like the finest ultra-marine softened in the center into white. The blossoms of N. maculata are larger than N. insignis; they are whitish in their ground color, and each petal is tipped with a deep violet spot. Seeds may be sown during any of the spring or summer months.

IBERIS—*Candytuft.*—The plants of this genus were called Candytuft because their flowers are produced in tufts, and because Iberis umbellata, the first kind introduced as a garden flower, was brought from the island of Candia, in the Mediterranean Sea. It was first introduced into England about the year 1590. There are several varieties of this plant.

PURPLE CANDYTUFT.

The Purple Candytuft grows about a foot high, with spreading branches and large heads of purple flowers. Iberis odorata, is a sweet scented variety, but the flowers are inferior to most of the other sorts. The Rocket Candytuft is by far the most splendid of the genus. The plant, when well grown, is about two feet high, branching widely, and producing three or five racemes of flowers six or eight inches long, and the centre one eight or ten inches. Sow in April or May, on a rich soil.

MATHIOLA ANNUA—*Annual or Ten-week Stock.*—A plant growing from one to two feet high, with an erect, branching stem, hoary leaves, and long spikes of flowers; the size and richness of color of these

GERMAN TEN-WEEKS STOCK.

flowers are greatly admired. The plant is a native of the south of Europe, and was first cultivated in 1731. The seed should be sown in a hot-bed or very early in the spring, in the open ground, and transplanted singly when very young, not later than immediately after they have produced their third pair of leaves, and as much earth should be kept about the roots as possible. It is convenient often to plant them in threes, in the shape of a triangle, so as to place a stake in the centre to tie them to, if necessary.

PHLOX DRUMMONDII—*Drummond's Phlox.*—This splendid Phlox was discovered in Texas, by DRUMMOND, a botanical collector sent out by the Glasgow Botanical Society, in 1835. A more splendid sight than a bed of these plants in full blossom, can scarcely be imagined; every flower, though of the deepest carmine, has its petals of a pale blush color on the under side, and every petal, though of the palest pink, has a dark carmine spot at the base. Thus the variety of colors displayed in a bed of these flowers almost exceeds description, and when they are seen under a bright sun and agitated by a gentle breeze, the effect is extraordinarily brilliant. Sow the seeds in a mass or broadcast, early in the spring.

Editor's Table.

WOOL GROWERS' ASSOCIATION OF WESTERN NEW YORK.—The following is the list of Premiums to be awarded at the Second Annual Fair of the Western N. Y. Wool Growers' Association, to be held at Penn Yan, Yates Co., on the 27th, 28th and 29th of May next:

SWEEPSTAKES.

First Class.—Best Buck, $60; second best Buck, $40; third best, $20.

Second Class.—Best five Ewes, $50; second best five Ewes, $30.

All fine-wooled sheep will be allowed to compete in the above classes.

SPANISH MERINO.

First Class.—Best Buck, three years old or upwards, $20; second best Buck, $15; third best Buck, $10.

Best five Ewes with Lambs, $20; second best, $15; third best, $10.

Second Class.—Best Buck, two years old, $20; second best, $15; third best, $10.

Third Class.—Best five Ewes, two years old, $20; second best, $15; third best, $10.

Fourth Class.—Best Buck, one year old, $20; second best, $15; third best, $10.

Fifth Class.—Best five Ewes, one year old, $20; second best $15; third best $10.

LONG AND MIDDLE WOOLED SHEEP.

First Class.—Best Buck, (sweepstakes,) $50; best buck one year old, $10; second best, $7; third best, $3.

Second Class.—Best Buck, three years old and upwards, $20; second best, $15; third best, $10.

Best Buck, two years old, $15; second best $10; third best, $10.

Third Class.—Best five Ewes, two years old and upwards, $15; second best $10; third best, $7.

Best five Ewes, one year old, $10; second best, $7; third best, $3.

No sheep will be allowed to compete in more than one of the foregoing classes.

SILESIAN AND SAXON.

First Class.—Best Buck, three years old and upwards, $10; second best, $7; third best, $3.

Best Buck, two years old, $10; second best, $7; third best, $3.

Second Class.—Best buck, one year old, $10; second best, $7; third best, $3.

Best five Ewes, two years old, $10; second best $7; third best, $3.

Best five Ewes, one year old, $10; second best, $7; third best, $3.

FRENCH MERINOS.

First Class.—Best Buck, two years old and upwards, second best, $7; third best, $3.

Best five Ewes, two years old, and over, $10; second best, $7; third best, $3.

Second Class.—Best Buck, one year old, $10; second best, $7; third best, $3.

Best five Ewes, one year old, $10; second best, $7; third best, $3.

"Competition for Premiums will be free to all, from any State of the Union, or the Canadas." Entrance fee one dollar.

On the third day of the Fair, a sale of sheep will take place on the grounds.

YELLOW STRIPED BUG.—A correspondent sends us the following method of keeping off the bug from melon vines: "Take black cotton wadding, which may be purchased at any store for two or three cents per sheet, split and cut it into square pieces, large enough to cover the hill; put a little soil about the edges to keep the wind from blowing it away. By this means the vines thrive well, and are free from the bug."

THE WEATHER.—At this date (March 31st) there is little prospect of genial spring weather. But we have the promise of "seed-time and harvest," and instead of talking despondingly of the prospect of an early spring, it will be better to conclude that the later it is, the shorter will be the time for performing its labors when it does come, and the more necessity for getting everything in readiness.

In this vicinity we are still of opinion that the peach crop is safe. But there are few sections equally fortunate. Throughout the West there can be no doubt that the crop is entirely destroyed.

In some sections it is said that the stock is in worse condition than last spring, although there is abundance of fodder, and the dry steady cold is much better—especially for sheep—than wet, unsettled weather. This is attributed, and with good reason, to the fact that hay, corn stalks, &c., are far less nutritious in a cool, moist season such as that of last year, than in a dry, hot one, like that of 1854. An immature plant is always less nutritious than one in which the juices are perfectly elaborated. Nevertheless, as far as our own observation extends, the stock will come out of winter in at least average condition.

DISEASE IN PIGS.—Mr. E. S. HAYWARD, of Brighton, N. Y., informs us that he has lost, within the last week or two, seventeen young pigs. They appeared healthy and exceedingly fat and thrifty till about three weeks old, when they were affected w th the "heaves"—panting as though suffering from heat. The disease carries them off in a few days. Have any of our readers had any experience with this fatal complaint, and what is it, and what the remedy? The pigs were half Suffolk. The sows were fed with milk, and a little Indian corn, oat and oil-cake meal made into a mash.

AGRICULTUBAL COLLEGE OF MARYLAND.—The bill to incorporate and endow an Agricultural College, appropriating $6,000 annually from the State Treasury, has finally passed both branches of the Legislature of Maryland, and is now a law. This annual appropriation is, however, not available to the College, until subscriptions to its capital stock to the amount of 2,000 shares at $25 per share be actually secured and made good. A committee has been appointed to superinted the building of the College.

CREOSOTE FOR WARTS.—Dr. RAINEY, of St. Thomas' Hospital, London, has written an article to the *Lancet*, detailing the effects of creosote applied to warts. He applied it freely to an obstinate warty excrescence on the finger, then covered it with a piece of sticking plaster. This course he pursued every three days for two weeks, when the wart was found to have diappeared, leaving the part beneath it quite healthy.

WE would call the attention of our readers to the advertisement of Mr DORMAN. We have not seen the machine at work, but from the model, we should judge it to be an excellent harvester. Send to Mr. D. for one of his pamphlets containing description, &c.

IT would be well for our farmers if they could analyze their crops, and also the soils in which they are produced. *Western Agriculturist.*

Will the *Agriculturist* tell us why?

THE PEACH CROP IN MICHIGAN.—A. L. KEELER writes us that "the peach crop is entirely destroyed in Michigan," and that "all his young trees are killed."

THE *New England Farmer* says that common hard soap applied to the end of a recently pruned vine will effectually stop the bleeding.

CURE FOR GARGET.—As it is about the time that cows are beginning to drop their calves, I think it a good time for those who have cows that are troubled with the garget to commence the cure. I last year tried a remedy given in the *Genesee Farmer* for 1855, page 20, and found it a certain cure. Instead of giving it three times a day, in doses of twelve grains, I give it in one scruple doses, twice a day, in a mash of shorts mixed with cold water, because if mixed with warm water, the iodine being very volatile, is likely to be exhaled, leaving very little of the active or rather effective part of the medicine. J. D.—*Gates, N. Y.*

IMPORTED SEEDS.—The draft on our stock of imported seeds is constantly increasing. This is a rare opportunity for our readers to obtain an assortment of the best quality of the choicest varieties of vegetable and flower seeds.

Those applying will be served in the order of their applications, and should we not be able to supply the demands, the remittances will be refunded.

All orders should have the varieties carefully specified according to our published list; or if the selections are left to our judgment, they will be made with special reference to the peculiar localities for which they are intended.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume. In addition to the price of the volume, those who order them to be sent by mail should inclose twenty-five cents for each copy, to prepay postage.

B. P. JOHNSON, Esq., will accept our thanks for President CHEEVER's address, delivered before the N. Y. State Ag. Society at their Annual Meeting in February last. We may find room for a few extracts next month.

Notices of New Books, Periodicals, &c.

THE MECHANIC'S, MACHINIST'S AND ENGINEER'S PRACTICAL BOOK OF REFERENCE, AND ENGINEER'S FIELD BOOK. By CHARLES HASLETT, Civil Engineer. Edited by CHAS. W. HACKLEY, Prof. of Mathematics in Columbia College, N. Y.

A duodecimo volume of 520 pages, containing 176 engraved diagrams, neatly bound in morocco, gilt, in pocket-book form, with tucks; price $2.50. This work contains a great amount of valuable matter in a small compass; here are tables, rules and recipes for all kinds of estimates, computations, constructions, mixtures, etc., for the Engineer, the Architect, the Ship-builder, the Mason, the House-builder, the Carpenter, the Joiner, the Bricklayer, the Plasterer, the Cabinet-maker, the Book-binder, the Painter, the Glazier, the Agriculturist, the Manufacturer, and the Artisan in iron, &c., &c. A really valuable work. Published by Stringer & Townsend. No. 122 Broadway, N. Y.

WANZER, MCKIM & CO., Publishers, Buffalo, N. Y., issued on the 25th of March, a new work entitled

THE TANGYETOWN LETTERS, being the Reminiscences, Observations, and Opinions of TIMOTHEUS TRAP, Esq., including a Report of the Great Mammothic Reform Convention. Edited by the Author of "Records of the Bubbleton Parish," etc.

It is published in one volume, 12mo. cloth, and is illustrated with six elegant designs, executed by some of the finest artists in the country.

TRANSACTIONS OF THE OHIO POMOLOGICAL SOCIETY.

This is a neat pamphlet of 64 pages, containing reports of the Pomological meetings held at Columbus, at the time of the State Fair in September 1855, and at Cleveland, January 1856, together with several interesting and valuable communications from some of the most prominent horticulturists of the State.

RECOLLECTIONS OF THE TABLE-TALK OF SAMUEL ROGERS; to which is added PORSONIANA. New York: D. Appleton & Co., 346 and 348 Broadway.

Here is a dish of dainty literary morsels, which will be highly prized by a numerous class of readers. SAMUEL ROGERS, lately deceased at an advanced age, himself a British poet of high reputation, was on terms of familiar intimacy with most of the literati of Great Britain, from the latter part of the last century to the time of his death. The volume before us, is a collection of his conversations, which are sparkling, entertaining and instructive, and will be highly enjoyed by all who peruse them.

PROCEEDINGS OF THE FRUIT GROWERS' SOCIETY OF WESTERN N. Y.

This is a pamphlet of some 140 pages, containing an account of the organization of the Society in February, 1855, the autumn meeting at Buffalo, and the annual meeting at Rochester in 1856. It abounds in practical information of interest and value to all engaged in horticultural pursuits. See a more extended review on another page. D. M. DEWEY, of Rochester, has the pamphlet for sale, and will send it postage paid to any address, on the receipt of 30 cents in post office stamps, or otherwise.

ERASTUS DARROW & BROTHER, Publishers in this city, have in preparation six new volumes from the popular author, T. S. ARTHUR. They will be of the 12mo. size, illustrated, of about 300 pages each; price 75 cents. The titles are popular, and we have no doubt the books will not disappoint us in this respect. They are:

Wedding Guest, a Friend to the Bride and Bridegroom.
Words of Cheer for the Toiling and the Sorrowing.
Our Homes; their Joys, and Cares, and Sorrows.
The Mother's Rule; or, the Right and the Wrong Way.
Friends and Neighbors; or, Two Ways of Living in the World.
The True Path, and How to Walk Therein.

Inquiries and Answers.

(C. W. COLLINS.) If you will give us your Postoffice, we will supply the missing number.

(C. W. THOMPSON, Niagara, C. W.) E. D. HALLOCK, of this city, has Osage Orange seed. Price $1 per quart.

(WM. JENNINGS.) The *American Veterinary Journal* is published by S. N. THOMPSON, 97 Union street, Boston. Monthly, $1 per annum.

(N. ARNOLD, Haddam Neck, Conn.) DWARF PEARS.—Bud from quince stocks in July, as near the ground as possible. We gave recipes for grafting wax in the March number, page 101. It is useless to graft the pear on to an old quince bush.

(T. H. WATT, Woodstock, C. W.) The culture of celeriac, or turnip-rooted celery, is not the same as that of celery. It is cultivated like cabbage. When the plants are tolerably grown, draw up the earth on each side of the row, three or four inches high. This will render them white and tender; and in five or six weeks after earthing up, they will be fit for use.

(A SUBSCRIBER.) See the article on millet in this number. Your grape vine that "blossoms and never bears," probably needs manuring. If you have any dead animals, blood, &c., bury them where the roots of the vine can reach them; or dig in some rich manure for several feet around the vine, and water it with the soap suds from the washings every week, being careful to stir the soil occasionally to keep it from baking.

(C. H. Case, Bosanquet, C. W.) Apply your leached ashes on the most sandy parts of your farm. They are frequently very beneficial for wheat, clover, &c. We can say "what are the prospects of the Chinese potato in this country." We would advise you to wait another year before expending much money in the purchase of tubers. We should think you would have no difficulty in raising all kinds of fruit in perfection. If you apprehend "early spring frosts," plant on a well drained slope facing the north, in order to retard the buds as much as possible in the spring.

(M. Rabel, Woodcock, Penn.) Guano for Spring Wheat.—Sift out all the lumps of the guano that are larger than a white bean, and break them. Then sow the guano broadcast on the land, either before or after plowing, at the rate of from 150 to 200 lbs. per acre. If sown after the land is plowed—which on the whole is perhaps the best way—harrow it in, so as to thoroughly incorporate it with the soil. Although guano will injure or destroy the germinating principle of all seeds when brought in direct contact with them in sufficient quantity, yet we have never known any injury sustained by sowing wheat and guano broadcast on the same land, and harrowing them in together.

(N. C.) Western Ag. Papers.—We can heartily recommend you any or all of the following:

The *Prairie Farmer*, published weekly at Chicago, by J. S. Wight. Price $2.

The *Ohio Farmer*, Cleveland, Ohio. Thomas Brown, editor and proprietor. Weekly. $2.

The *Ohio Cultivator*, Columbus, Ohio. S. D. Harris, editor and proprietor. Semi-monthly. $1.

The *Michigan Farmer*, Detroit. J. R. Johnston, editor and proprietor. Monthly. $1.

The *Valley Farmer*, published by N. J. Coeman, St. Louis, Mo., and by H. P. Byram, Louisville, Ky. Monthly. Price $1.

The *Northwestern Farmer*, Dubuque, Iowa. Miller & Brayton, publishers. Monthly. $1.

(John Ellinwood, Waukegan, Ill.) The article you refer to on the culture of liquorice was probably from the pen of Wm. R. Prince, of Flushing, N. Y. You can obtain the plants from him. We have never seen this plant cultivated in this country. In Spain and Italy it is extensively raised, and from its roots is manufactured the commercial extract, Spanish juice, or liquorice. It is also cultivated to a small extent in some parts of England, but it is more profitably grown on the continent, where labor is cheaper. It is a leguminous plant, with long perennial roots. The roots are dug the third year after planting. A ton of fresh root per acre is a good crop. Our rich, deep western soils, if well drained and deeply plowed before planting, would produce in all probability, large crops of liquorice. The plants are propagated by cuttings of the side-roots, which spring from the crown of the plants, and run horizontally just beneath the surface. Each set, having a bud or two, should be set two inches deep, and in rows, wide enough to admit the use of the horse-hoe, say three feet, and about eighteen inches apart in the rows. Like lucerne, the plants are much benefited by frequent hoeing during the summer. Gathering the crop is the most expensive operation attending the culture of liquorice. A trench must be dug regularly along each row, quite down to the extremity of the principal roots, which descend two feet or more. We do not know where the seed of the *Red Camomile* can be obtained.

(J. L. Mandeville, Motts Corners, N. Y.) We do not know where the Wyandott corn can be obtained. It may be all that is claimed for it in the southern and south-western States, but we think it is not likely to prove valuable in this latitude.

(C. W. S.) Potatoes for Horses and Cows.—Potatoes are an excellent food for horses, especially in the spring of the year. They should be boiled, or what is better, steamed; and while hot, should be mashed up with corn meal and a little oil-cake meal—say six pounds of corn meal and one pound of oil-cake to each bushel of potatoes. Some prefer to mix them with shorts, but this in our opinion makes a somewhat too loosening diet for horses at hard work. Pea meal may be substituted for the oil-cake, if it is cheaper in your neighborhood.

For milch cows, nothing is better than potatoes. They are better steamed or boiled, but the cows will eat them raw; and we know intelligent farmers who think it will hardly pay to boil potatoes for milch cows.

It is difficult to say what is "the comparative value of potatoes and corn," there are so many questions to be taken into the consideration. We should prefer potatoes, for horses and milch cows, at 25 cents a bushel, to Indian corn at $1 per bushel.

A Tin Bee Hive.—Would not a tin bee hive be an effectual guard against the miller? I think the miller does not deposit its egg inside of the hive or about the honey-comb, but in the cracks on the sides or top of the hive. You may observe by taking a hive apart that is infected by the miller, that the grub has worked its way through the hive to the honey-comb. This fact I have noticed in several instances. In fact I have seen the deposits between the draw and the side of the hive, and have seen where they have cut or eaten their way into the hive. Has the tin hive ever been tried? I should like to hear from some others that are more experienced in raising bees than myself. The hive should be japanned or painted, or it would be too bright and smooth. A. Deitz—*Cerra, McKeen Co., Pa.*

Too Much Stalk for the Corn.—I get too much stalk and cob for the corn. What manure shall I apply to get more corn in proportion to the stalk and cob. Corn—*Sterling Hill, Ct.*

The variety of corn, climate, distance between the rows, and the method of cultivation, have more to do with it than the kind of manure. It is perfect folly to talk about furnishing the soil with those elements found in the kernel, and not with those found in the stalk, in order to accomplish this object. Will some of our correspondents take up this matter.

Grub Fly on Cattle.—I will ask one little question which perhaps may be answered through the pages of the *Farmer*; that is, Cannot there be something applied to the backs of calves and cattle that will prevent the sting of the grub fly? I am satisfied it is deleterious to their growth and thriving, in proportion as they are numerous. I notice that long and coarse haired cattle will have the most of them. C. W. Tiffany—*Hopbottom, Susquehannah Co., Penn.*

Gooseberry and Quince Seed.—Having received some gooseberry seed from Scotland, of last year's growth, please to inform through the *Farmer*, the proper mode of propagating the same. If the quince tree can be raised from the seed, which would be the proper time? Wm. Brown—*Chesterfield, C. W.*

Soak the gooseberry seed for two or three days in tepid water, and then sow in a hot-bed, or warm sandy border. The common quince can be raised from the seed sown in the fall, or if the seeds are properly kept through the winter, in the spring.

Dog Power—Corn Planter—Sweet Millet.—In due course I received your little gem, the Rural Annual, and the current number of the *Farmer*. I am much pleased with the *Farmer* in its improved form, both for quantity and quality, and its extreme cheapness appears incredible.

I am in want of a motive power to saw wood for a stove, and that might be applied to churning, turning a grindstone, or pumping water; these require but small power. Would not the dog or sheep churn power do? If so, where could I get it, and at what price?

Is there any machine, *self-acting*, that will plant corn in check rows?

Can you inform me where I can get by mail a small portion of *Sweet* or *Sugar Millet*, and your opinion of its merits?—William Bourne—*Fuller's Point, Coles Co., Ill.*

The Dog Power you can probably get of Henry D. Emery, 45 Franklin street, Chicago. We believe there are double dog or sheep powers that can be used to saw wood. We shall be glad to hear from our experienced readers on this point.

There are many good machines for planting corn, but none that deposit the seed sufficiently accurate to allow the horse-hoe to be passed through both ways of the rows, especially if the ground is at all rough. Such a machine is greatly needed, but from the impossibility of accurately measuring distance with a rolling wheel of small diameter, on uneven ground, we fear it will be some time before we shall have one that will accomplish the object.

By Sweet or Sugar Millet, we suppose our correspondent means the "Indian Millet," *(Holcus soghum.)* It has recently been brought out as something *new*, when in reality it has been known for a very long time. It is coarser than the common millet, and needs a hotter climate to bring it to perfection. The "Chinese Sugar Cane" *(Holcus saccharatum.)* is closely allied to Indian millet. Owing to the failure of the grape in France, it was supposed that this grass which contains considerable sugar, might be profitably grown for *distilling* purposes. It is to this fact it owes the attention it has received in this country. *We* do not want it for *whisky* manufacture. And it is yet to be shown that it is more *nutritious* than the common millet, or that more can be grown per acre. It may prove an acquisition in the southern and south-western States, but we do not anticipate any great benefit from its introduction into the northern States. Thorburn & Co., Seedsmen, New York, can furnish the seed.

Preparing Seed Corn.—Will you please give us through the columns of the *Genesee Farmer*, a receipt for the preparation of corn so that crows and worms will not disturb it? W. R.—*Auburn Town Corners, Penn.*

Will our correspondents give us their experience.

ADVERTISEMENTS,

To secure insertion in the Farmer, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. Terms—Two Dollars for every hundred words, each insertion, paid in advance.

NOTICE.

Messrs. JOHN DONNELLAN & NEPHEWS, of the Rochester and Handford's Landing Nurseries, having made some alterations in their firm, and increased their Nursery Grounds, have also changed the above address and designation, and in future their business will be carried on under the title of JOHN DONNELLAN & CO., Rochester and Lake Avenue Commercial Nurseries.

☞ The location is barely one mile north of the city limits, and four miles from Lake Ontario Steamboat Landing, affording convenient facilities for shipment of Trees, &c., either by Railroad or water.

All orders for Trees and Plants will be filled and delivered promptly to the care of such forwarding companies as may be directed.

Catalogues furnished on application.

April, 1856.—2t. JOHN DONNELLAN & CO.

FRUIT & ORNAMENTAL TREES, SHRUBS, ROSES, &c.,

FOR SALE BY JAMES VICK & CO.

The Subscribers are prepared to receive and execute all orders for Fruit and Ornamental Trees, to be delivered the present Spring.

We are well aware of the impositions that have been practised heretofore by tree agents, but as we intend devoting our entire attention to the business of selecting, packing, and shipping Trees, &c., and not being connected with any nursery, we are determined to hold no other object in view but that of supplying our patrons in every instance with the best articles.

We will purchase Trees, &c., only from the most reliable nurseries, attending personally to the selections. If our customers leave the selection to us, we will furnish the varieties best suited to their respective localities. As we are well acquainted with all the nurseries in this State, and know exactly where to find the suitable stock, it is still further guaranteed to our customers that their wants will be supplied in the best manner.

Mr. Vick has been connected with the horticultural community for many years as the proprietor and publisher of the *Genesee Farmer* and *Horticulturist*, and for many years past, persons from all parts of the country have urged upon him the necessity of forming arrangements that would meet the wants of the public by attending to the selection of orders, seeing the articles packed and shipped, thus affording a guarantee that the requisite attention would be paid to all orders sent forward. In order to meet their views he has formed a copartnership with Mr. Geo. Marshall, who has been connected with the nursery business for the past five years, and he begs to assure the public every attention will be paid in every respect to all who may favor them with their orders.

As a still further assurance that we will execute to the letter every wish of our patrons, and our ability to meet our engagements, we beg to refer to the following gentlemen:

Hon. Washington Hunt, Ex-Governor of New York.
Hon. H. Stilwell, Ex-Mayor of Rochester.
A. Karnes, Esq., Banker.
J. C. Campbell, U. S. Collector.
H. Sargeant, Dep. "
Lee, Mann & Co., Prop. Rochester Daily American.
Curtis & Butts, " " " Union.
A. Strong & Co., " " " Democrat.
D. D. T. Moore, of Moore's Rural New-Yorker.

All letters addressed to us at Rochester, N. Y., will meet prompt attention.

Persons sending orders must enclose the cash, a draft, or satisfactory note for amount of order.

Catalogues will be supplied upon application.

JAMES VICK & CO.,
March 1. Rochester, N. Y.

FOR SALE.

THE FINEST SPORTING PROPERTY IN CANADA.

The place is known as "Ryerson's Island," and contains 191 acres per deed—is situated about one mile east of Long Point, in Lake Erie, and about eight or ten miles from Port Rowan and Normandale in Norfolk county.

The soil is very rich. Corn, cabbage, tomatoes, potatoes, and almost all vegetation is of the most luxuriant growth, and can be in market nearly three weeks before the same are produced on the main land. A small portion is under cultivation. It offers great advantages for raising Cows, Oxen, Sheep, and all kinds of Stock, as an extensive Grazing or Market Farm. Twenty to thirty or forty tons of excellent hay can be had just by cutting and curing. Wild *Grapes* are very abundant and large. Every spring and fall it abounds with Wild Fowl—Wild Ducks innumerable, of almost every variety—(one gentleman shot and bagged 86 in part of one day last year)—Geese, some Swans, Plovers in flocks, Woodcocks, Pigeons, etc., all summer. Turtles of different kinds and size are very plentiful. Deer, Coons, Muskrats, etc., are in great numbers on Long Point. The Fishing advantages are still greater, either with hook and line, nets, or otherwise. The fish are caught in *great quantities*, and are very large and fine. The delicious Muscalunge, weighing from 30 to 40 pounds; the Sturgeon, from 75 to 100 pounds; the Cat and White fish, and Herring are very plentiful. The Pleasure Boat is a great luxury here, being just far enough from the main shore not to be annoyed. It can be made a superior place of Public Resort, being known to large numbers of sporting gents, all along from New Orleans, Canada, New York, etc. *It is very* healthy, and can be reached from different points along the lake by Steamboat, which leaves Buffalo in the evening, and arrives early next morning; there are also Railroad advantages approaching. Terms very reasonable. Apply to

RICH. RICHES, Ryerson's Island,
Apl—2t. Normandale P. O., Canada West.

FRUIT AND ORNAMENTAL TREES, &c.

The subscriber offers for sale a large and general assortment of Fruit and Ornamental Trees and Shrubs, comprising every item that is usually to be found in the most extensive *hardy* collections of Nursery Stock that can be grown without protection in this latitude.

Exact Inventories of the Stock, denoting the height of the Trees and the number of each sort offered for sale, with the prices, forwarded to all prepaid applications inclosing a one cent postage stamp.

S. MOULSON,
April 1, 1856. 36 Front Street, Rochester, N. Y.

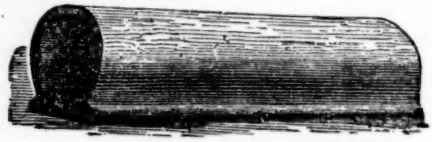
ALBANY TILE WORKS,

Corner of Patroon and Knox Streets, Albany, N. Y.

THE subscribers, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities, for Land Draining, the following descriptions, warranted superior to any made in this country, hard burned, and over one foot in length. On orders for 10,000 or more, a small discount will be made.

HORSE SHOE TILE.

4½-inch calibre, $18 per 1000; 3½-inch calibre, $15 per 1000; 2½-inch calibre, $12 per 1000.



SOLE TILE, OR PIPE.

3-inch calibre,.....$18 per 1000.
2-inch calibre,.....12 per 1000.

Also on hand, 8 inch Horse Shoe Tile for large drains, $8 per 100; 5½-inch, $40 per 1000. Sole Tile, 4-inch calibre, for sink drains, $40 per 1000; 6-inch calibre, Octagon Pipe, $20 per 100.

Cornice Brick, of the pattern used in the City of Washington, also on hand.

Orders respectfully solicited. Cartage free.

C. & W. M'CAMMON,
late BABCOCK & VAN VECHTEN,
April 1, 1856.—1t. Albany, N. Y.

UNION AGRICULT'L WAREHOUSE AND SEED STORE,

No. 23 FULTON ST., (NEAR FULTON MARKET,) NEW YORK.

THE Undersigned, having succeeded to the business for the manufacture and sale of Agricultural Implements and Machinery, heretofore conducted by Messrs. RALPH & CO., at No. 23 Fulton street, intends to continue the same in all its branches, and is prepared to furnish goods of the best style and quality at low prices. Machinery, or any articles in the line, manufactured to order according to pattern at short notice.

My facilities for manufacturing enable me to offer to Dealers and Farmers the following leading articles at low figures:

Hand and Power Corn Shellers.
Fan Mills.
Plows, Harrows, Cultivators.
Revolving Hay Rakes.
Spring tooth Hay Rakes, (the best Rake in use.)
Cast iron Corn Mills, for Hand or Power.
Road Scrapers, Wheel-Barrows.
Field and Garden Rollers.
Corn and Cotton Planters.
Post or Ground Augers.
Hay, Straw and Stalk Cutters.
Wagons and Carts.
Vegetable or Root Cutters.
Sausage Cutters and Stuffers.

In connection with my farming operations, I have for some years past given much attention raising thorough bred Short Horn, North Devon and Ayrshire cattle, and other fine stock, and now offer the advantage of my knowledge and experience to persons desiring to purchase stock. ALFRED M. TREADWELL,
April 3t. 23 Fulton St., New York.

MANN & SON'S REAPER AND MOWER COMBINED

THE Subscriber is the sole Agent for the sale of MANN & SON'S celebrated Combined Reaper and Mower, in all the States east of the Ohio line, and the Canadas. He will send a pamphlet containing a description of the Machine, and certificates from some of the most respectable farmers in the West, that prove that this Machine will do more and better work than any other. It has taken the First Premium at several Trials in competition with the Atkin's, McCormick's "New York Reaper," Manny's, and many other popular Machines, and is unquestionably the best and most labor-saving Machine yet introduced to the Agricultural public.

It is manufactured by HASKELL, BARKER & ALDRIDGE, of Michigan City, Indiana, who warrant each machine to *waste less grain than any other Harvester in use.*

I have a model of the Machine which I shall be glad to show to any one wishing to examine into this matter. I have used the Machine in all kinds of grain and grass, and know it to work easier and better than all others. JOHN DORMAN,
April 2t* Penn Yan, Yates Co., N. Y.

A. FROST & CO.,

GENESEE VALLEY NURSERIES, ROCHESTER, N. Y.

THE Proprietors of this establishment have published their annual descriptive Catalogue (No. 3) of choice Dahlias, Verbenas, and other bedding-out plants, as well as Geraniums, Phloxes, select greenhouse plants, new Roses, &c., for 1856

Their Stock, which is represented in this Catalogue, is very large, select, and in great variety, so that entire orders which may be entrusted to them will be furnished. Having added for this department, the past season, a great extent of glass, and by extensive importations from Europe, many novelties promising merit are introduced, which render it particularly attractive.

All plants sent out from this establishment are packed in the most superior manner, so that they may reach even distant destinations in perfect safety.

This Catalogue (No. 3) will be mailed to all applicants by enclosing a one cent postage stamp.

Besides the above, the following Catalogues will be sent on the receipt of a one cent postage stamp for each Catalogue wanted:

No. 1, Catalogue of Fruits.
No. 2, Catalogue of Ornamental Trees, Shrubs, Roses, &c.
No. 4, Wholesale Catalogue or Trade List, for Nurserymen and others, who wish trees in large quantities.

Rochester, April 1, 1856—2t.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in calling the attention of the public to their establishment, deem a lengthened notice unnecessary. They would merely state, that the stock of their nurseries which they offer for sale the coming spring, is full in every department, and of the best quality, including all the recently introduced PEARS, and other fruits, both Dwarf and Standards. Also all the novelties in the Ornamental department, both Deciduous and Evergreen, including the new and rare Conifera, Weeping trees, Shrubs, &c., as well as a full stock of all the leading articles to be had in the trade.

For particulars in detail they refer to their general Catalogue, a new edition of which is ready, and will be forwarded to all *post-paid* applications, on enclosing a postage stamp to *pre-pay* the same.

A large quantity of Hedge plants, Osage Orange, Buckthorn, &c. Dealers and planters of trees on a large scale, dealt with on the most liberal terms.

Newburgh, March 1, 1856—2t.

FRUIT AND ORNAMENTAL TREES.

THE subscriber invites the attention of those designing to plant, to the large stock of Fruit and Ornamental Trees, Shrubs, Roses, Vines, Hedge Plants, &c., which he offers for sale, now suitable for transplanting.

The assortment of FRUIT TREES is large, and consists of the most approved varieties of

APPLES, Standard and Dwarf,
PEARS, do. do.
CHERRIES, do. do.

PEACHES, PLUMS, APRICOTS, QUINCES, NECTARINES, and the smaller Fruits, together with a general variety of other nursery items.

Also, Trees of extra large size can be supplied of the following: Apples, Pears Peaches, and Plums.

Trees securely packed for transportation.

CHARLES MOULSON,
April, 1856.—1t. Union Nursery, Rochester, N. Y.

PRICES OF FERTILIZERS FOR SPRING, 1856.

PERUVIAN GUANO, No. 1, with Government brand and weight on each Bag,	per ton of 2,000 lbs.		$54.00
Ichaboe Guano,	"	"	40.00
Improved Superphosphate of Lime,	"	"	45.00
Bone Dust, Ground	per bbl.	$2.25 to	2.50
" Turnings	"	2.37 to	2.50
" Sawings	"		3.00
" Mixed fine ground	"	2.75 to	3.00
Plaster of Paris	"	1.00 to	1.25
Poudrette	"	1.50 to	1.75
Tea-few	per ton of 2,000 lbs.		35.00

There is an inferior grade of Peruvian Guano with the Government brand upon the bags, which can be detected by the figure 2 under the weight mark.

A. LONGETT,
mar—3t 34 Cliff street, corner of Fulton, New York.

UNION AGRICULT'L WAREHOUSE AND SEED STORE

No. 23 FULTON ST., (NEAR FULTON MARKET,) NEW YORK.

PLOWS, a large and choice selection of the best patterns now in use, comprising a variety of forty different patterns and sizes, adapted to the various soils.

Harrows, square, triangular and hinged.

Seed Drills, for sowing all kinds of garden or field seed in drills, to be used by hand or horse.

Rollers, field and garden sizes.

Garden Engines, Wheel-barrows, &c.

Together with an extensive assortment of Horticultural Implements, Field and Garden Seeds, for sale by

April 3t. A. M. TREADWELL, No. 23 Fulton St., N. Y.

SEEDS.

VEGETABLE AND FLOWER SEEDS.

I HAVE just imported from France, and now offer for sale the following list of Seeds. They embrace the very best and rarest sorts, and are recommended as quite superior.

VEGETABLES.

CAULIFLOWER—Early Paris, Large Lenormand.
CABBAGE—Superfine Early York, Small Early Savoy, Large late Dutch Drumhead, Winningstadt.
BROCOLI—Early White.
CELERY—White Solid.
CELERIAC, or Turnip-rooted Celery.
CARROT—Early Short-horn.
RADISH—Rose Winter, Early Oval, Long Scarlet.
EGG PLANT—Long Purple, White.
KOHL-RABI—White above ground.
ONION—Giant or Round Madeira, White Lisbon, Blood Red.
CUCUMBER—Early White.
SPINAGE—Very Large English.
MUSKMELON—Nutmeg.
WATERMELON—Spanish.
PEPPER—Common Red.

FLOWERS.

Balsam, double mixed.
Lathyrus odoratus.
Aster Chinensis pyramidalis.
Portulacca, mixed varieties.
Phlox Drummondii.
Petunia, hybrid varieties.
Nemophila insignis.
" maculata.
Bartonia aurea.
Convolvulus major.
" minor.
Mirabilis jalapa.
Calandrinia elegans.
Campanula var.
Dianthus Chinensis flore pleno.
Centaurea var.
Ipomea quamoclit.
Lupinus, mixed varieties.
Clintonia pulchella.
Coreopsis varieties.
Dracocephalum Moldavicum.
Enothera purpurea.
Escholtzia Californica.
Gentiana amarella.
Cheiranthus annuus.
Godetia rubicunda.
Xeranthemum.
Kaulfussia Ammelloides.
Lamarckia aurea.
Lavater trimestis rosea.
Leptosiphon densiflorus.
" Androsacea.
Papaver, mixed varieties.
Delphinum, "
Scabiosa atropurpurea.
Schizanthus pinnatus.
" Grahami.
" retusus.
" retusus albus.
Mimosa pudicans.
Tagetes patula.
" variegata.
Candytuft, many varieties.
Zinnia elegans.
Mimulus Cardinalis.
Amaranthus, red globe.
" orange.
" white.
Aquilegia Canadensis.
" hortensis.
Digitalis purpurea.
Antirrhinum, mixed varieties.
Viola tricolor grandiflora.
Penstemon, several varieties.
Dianthus caryophillus.
Cheiranthus incannuus.

And many other sorts which we have not room to mention in detail.

These seeds are neatly put up and marked, and are offered at the rate of sixteen sorts for one dollar, and will be forwarded by mail, postage paid, to any part of the United States.

Orders should be addressed to JAMES VICK,
Proprietor of the Genesee Farmer.

RARE AND VALUABLE SEEDS.

THE Subscriber will forward to any *readable* address, packages of the following seeds by mail, free of postage, or postage paid, on the receipt of price, or the entire list in one envelope, for $1 in gold, a current bank bill, or postage stamps.

	Cents.
Nepaul Barley, beardless and skinless, per package,	25
Biennial Rye, two crops from one seeding, "	12½
Pure Poland Oats, forty pounds to the bushel,	12½
Orange Watermelon, rind peels off like the orange,	25
Ice Cream or *White Sugar Melon*, of Alabama,	25
Chinese Hoo-sung, substitute for Asparagus,	25
Five Foot Cucumber, 5 feet long!	12½
Negley's Seedling Cucumber, new and fine,	12½
Cylindrical Pumpkin, 2 feet long	12½
Glass Melon, very small, for preserves,	12½

N. B.—A Descriptive Catalogue, embracing many other varieties, will be sent on application by mail.

SEND FOR THE CATALOGUE.

Address, (Free,) I. W. BRIGGS, P. M.
County Line Farm, West Macedon, Wayne Co., N. Y.
Feb.—4t.

TOMPKINS' COUNTY KING.

SCIONS or Trees can be furnished of the above variety, cultivated from bearing trees. Also, other new varieties, such as Wagener, Primate, &c. Also, scions of all the leading varieties. Also, a large quantity of the Viminalis Willow, for the basket trade. Cuttings furnished of the above variety for $2,50 per 1,000. W. T. & E. SMITH,
Feb.—3t. Geneva Nursery, N. Y.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
Every Lady her own Flower Gardener. Price 25 cents.
The American Kitchen Gardener. Price 25 cents.
The American Rose Culturer. Price 25 cents.
Prize Essay on Manures. By S. L. Dana. Price 25 cents.
Skinner's Elements of Agriculture. Price 25 cents.
The Pests of the Farm, with directions for extirpation. Price 25 cents.
Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
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